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CHEST WEIGHT EXERCISES



NARRAGANSETT MACHINE CO.,
GYMNASIUM OUTFITTERS,
PROVIDENCE, R. I., U. S. A.

Corey, Thomas A

CHEST WEIGHT EXERCISES

From the
Department of Hygiene
of the
College of the City of New York

ILLUSTRATED

Price 25 Cents

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NARRAGANSETT MACHINE COMPANY,
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FOREWORD

GOOD health is one of the most important things in this world. This is true because the best success of every human enterprise depends upon the good health—the physiological efficiency—with which that enterprise is supported.

Physical exercise is one of our most important health habits. No plan of personal health control can succeed unless it makes provision for adequate exercise. But it must not be forgotten that the quality of health depends on other factors in addition to exercise.

"The well-planned policy of personal health control teaches men to eat properly, to drink properly, to breathe properly, to take proper care of the excretions and wastes, to exercise wisely, to rest wisely, to keep reasonably clean with reference to disease-breeding organisms and to correct their physical defects. Such governing principles lead to and conserve human health. Failure to respect any one of these principles will jeopardize the success of the others. No rational scheme should rely upon exercise alone for health, nor upon any other one procedure or habit. One must respect all of these several requisites in order to work under a wise policy of personal health control. The man who regulates his habits of eating and takes no exercise cannot expect health. The man who exercises properly and eats wisely will fail to secure health if his habits of sleep are bad. On the other hand, a reasonable observance of these several simple hygienic laws cannot fail to secure and conserve health for the average individual.

"Such an individual will be possessed of millions of active, healthy cellular structures working for his protection, constructing for him a defensive armamentarium, and ready on demand to respond with a supreme reaction against the invasion of disease."*

*Storey, Proceedings, of Section V, International Congress on Tuberculosis, Washington, D. C., 1908.

ILLUSTRATED EXERCISES ON THE CHEST WEIGHTS

GENERAL DIRECTIONS

This series of movements and the accompanying illustrations are presented for graphic description of various exercises with the Chest Weights. The series contains enough movements to make up several complete drills. It also suggests many combinations for additional drills. The illustrations are descriptive not only of exercises on the chest weights but also of exercises with dumb-bells or of exercises with no apparatus at all.

In assigning chest weight work to weak beginners the milder exercises should be selected and the lighter weights used. The rhythm of movement should be slow and the number of movements limited. With stronger individuals the amount of exercise may be increased.

POSITION

The heels should be about a foot apart; toes directly forward; feet parallel; arms in side hang; chest up and chin drawn down and back. (See figure 1).

EXECUTION

Continue each movement for four, eight or sixteen or more counts. Make the count at the end of each movement. The rhythm should be from one to two movements a second. A slower rhythm is often desirable and should be adopted whenever the exercise increases abnormally the heart or breathing rate. Unless otherwise specified the arm movements should be made without bend at the elbow.

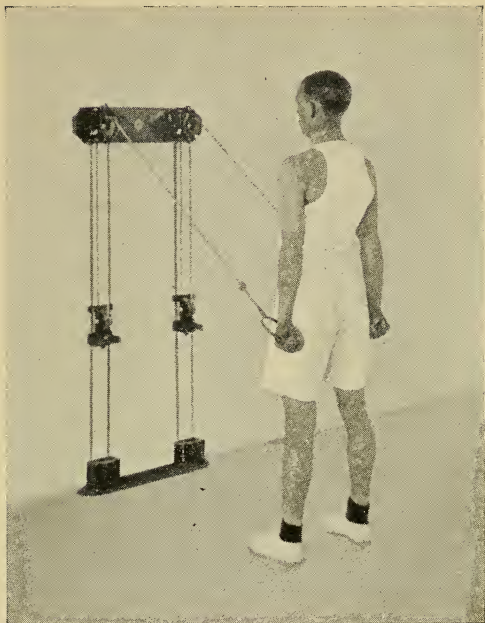


FIGURE 1

Facing Machine Arms in Side Hang

GROUP 1

Position—Face machine, feet parallel and about twelve inches apart, toes direct forward, arms at sides, thumbs against thighs, chest up, chin drawn back and down, using chest pulleys.

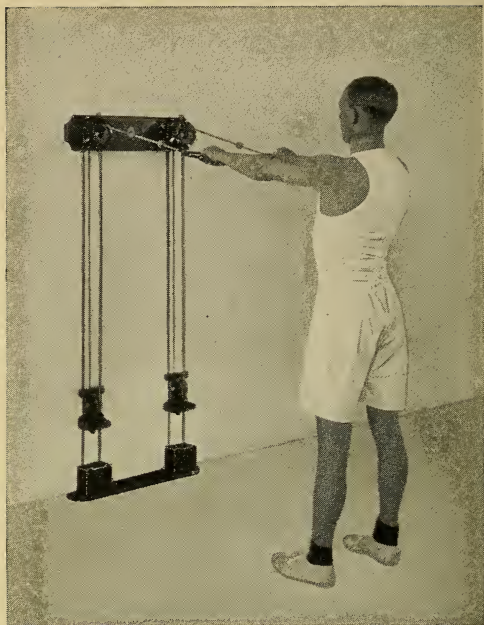


FIGURE 2

Arms in Front Horizontal

EXERCISE 1

Position as in Figure 1

1. Arms from **position** to front horizontal.
(Fig. 2.)
2. Return to **position**.
Repeat.

Count at the end of each movement, thus:
"one", "two", "three", "four" and so on.

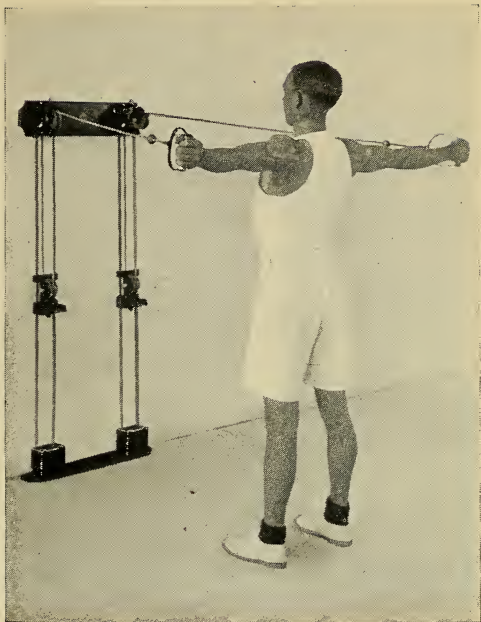


FIGURE 3

Arms in Side Horizontal

EXERCISE 2

Position as in Fig. 1

1. Arms from **position** to front horizontal, (Fig. 2).
2. Arms to side horizontal, (Fig. 3).
3. Return to front horizontal.
4. Return to **position**.
Repeat.

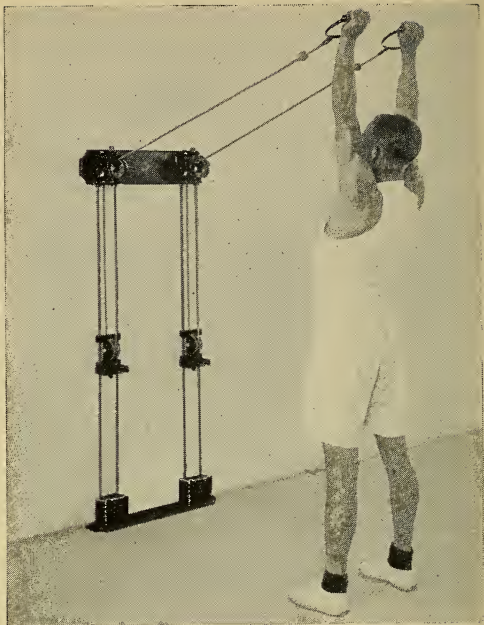


FIGURE 4
Arms in Vertical

EXERCISE 3

Position as in Figure 1

1. Arms from **position** through front horizontal to vertical, (Fig. 4).
2. Return to **position**.
Repeat.

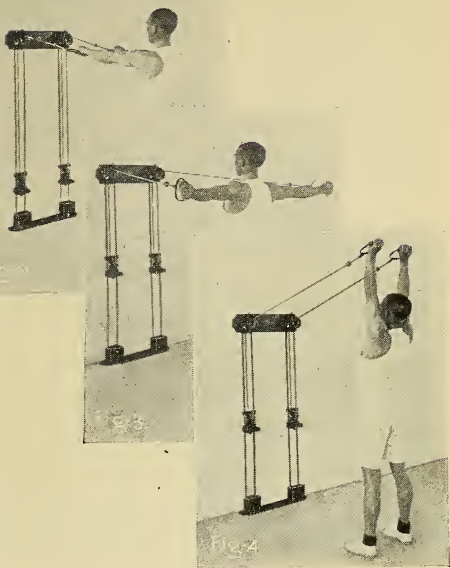


FIGURE 5

Composite of Figs. 2, 3 and 4.

EXERCISE 4

Position as in Figure 1.

1. Arms from **position** to front hor'l. (Fig. 2).
2. Arms to side horizontal. (Fig. 3).
3. Arms to front horizontal.
4. Arms to vertical. (Fig. 4).
5. Return to front horizontal.
6. Arms to side horizontal.
7. Arms to front horizontal.
8. Arms to **position**. Repeat.

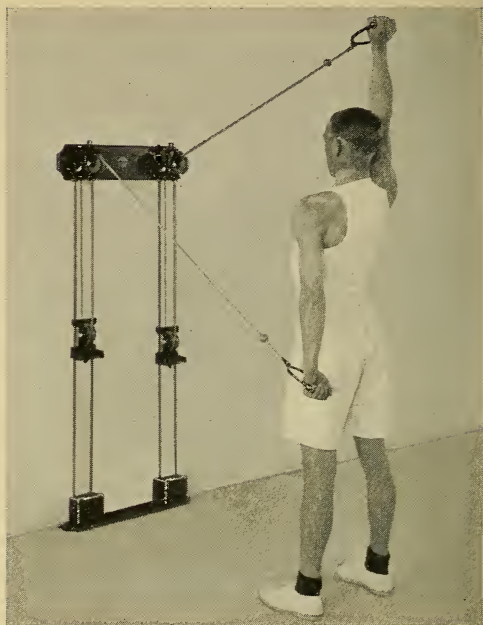


FIGURE 6

Right Arm in Vertical, Left in Side Hang

EXERCISE 5

Position as in Figure 1

1. Right arm from **position** to vertical (Fig. 6).
2. Alternate left to vertical and right to **position** (on same count).

Repeat.

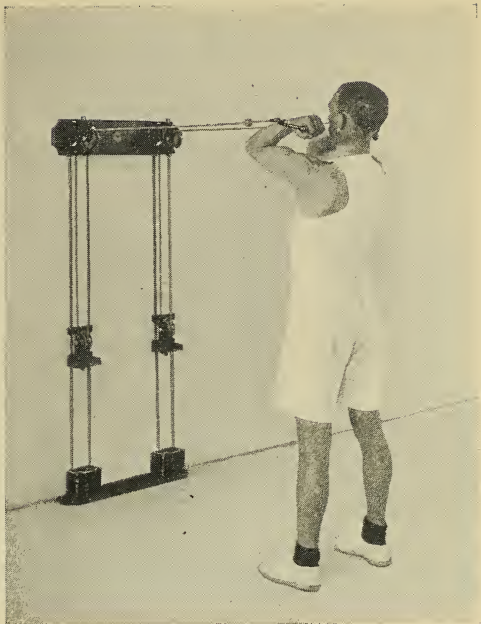


FIGURE 7

Arms Flexed from Front Horizontal to Shoulders

EXERCISE 6

Position as in Figure 1

1. Arms from **position** to front horizontal.
 2. Flex to shoulders (Fig. 7).
 3. Extend to front horizontal.
 4. Arms to **position**.
- Repeat.

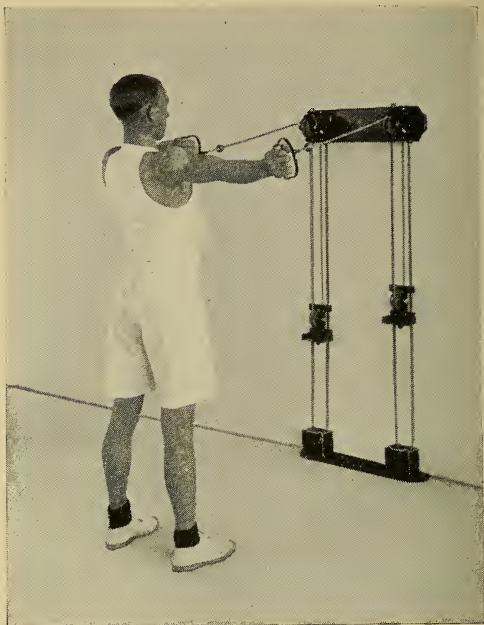


FIGURE 8

Arms in Right Horizontal

EXERCISE 7

Position as in Figure 1

1. Arms from **position** to front horizontal.
2. To right side horizontal, (Fig. 8), Left arm "flexed" across Chest.
3. Return to front horizontal.
4. To **position**. Repeat.

EXERCISE 8

Repeat No. 7, arms to left side horizontal.

EXERCISE 9

Alternate Exercises No. 7 and No. 8.

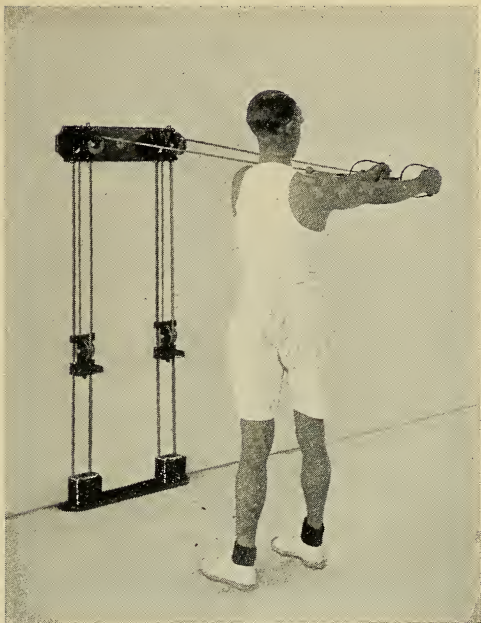


FIGURE 9

Arms in Right Side Horizontal, Quarter Turn of Trunk

EXERCISE 10

Position as in Figure 1

1. Arms from **position** to front horizontal.
2. To arms in "right side horizontal" with quarter turn of trunk.
3. Return to front horizontal.
4. Return to **position**. Repeat.

EXERCISE 11

Same as Exercise No. 10 with quarter turn of trunk to left, arms in left "side horizontal".

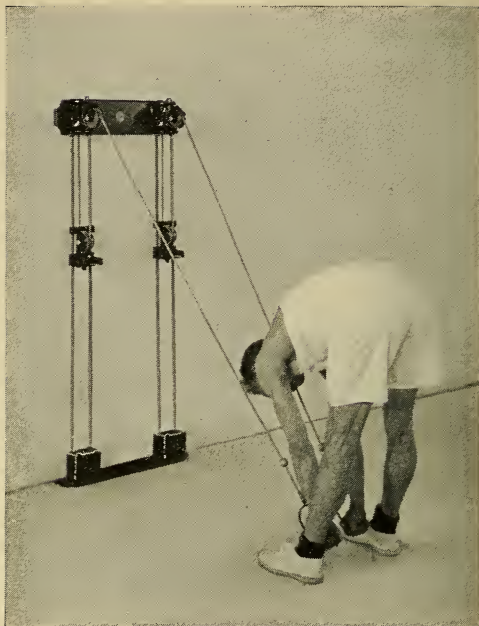


FIGURE 10

Trunk Bend Forward and Hands Between Ankles

EXERCISE 12

Position as in Figure 1

1. Arms from **position** to front horizontal.
2. Trunk bend forward with forward and downward sweep, hands between ankles, (Fig. 10).
3. Straighten trunk, arms in "side horizontal".
4. Return to **position**, "or arms in side hang". Repeat.

EXERCISE 13

Position as in Figure 1

1. Arms from **position** to vertical.
2. Body bend forward bring hands between ankles, (Fig. 10).
3. Straighten body, arms to vertical.
4. Return to **position**.
Repeat.

EXERCISE 14

Position as in Figure 1

1. From **position** bring hands between ankles, (See Fig. 10).
2. Through front horizontal, (Fig. 2), to side horizontal, (Fig. 3).
3. Return through front horizontal to ankles.
4. Repeat.

EXERCISE 15

Position as in Figure 1

1. From **position** bring hands between ankles.
2. Through front horizontal to right "side horizontal" with quarter turn of trunk to right, (Fig. 9).
3. Return through front horizontal bring hands between ankles.
4. Same as 2.
Repeat.

EXERCISE 16

Same as Exercise No. 15 with turn to the left.

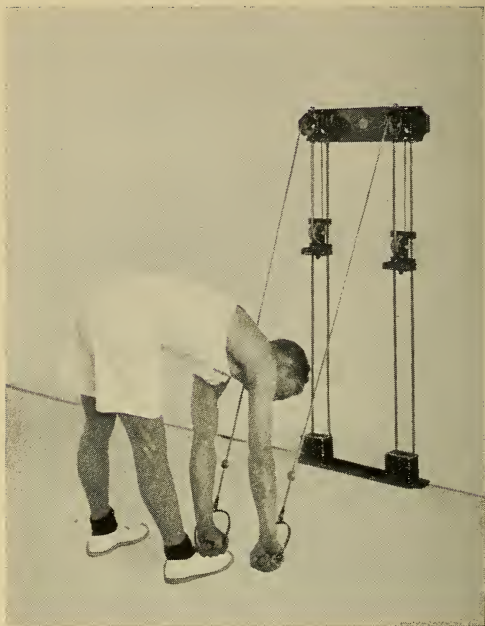


FIGURE 11

Body Bend Forward with Hands Outside of Right Ankle

EXERCISE 17

Position as in Figure 1

Exercises 12, 13, 14, 15 and 16 may be varied by bringing the hands outside the right ankle as in Fig. 11.

EXERCISE 18

Movements in Exercise 17 above may be varied by bringing the hands outside the left ankle, and then by alternating.

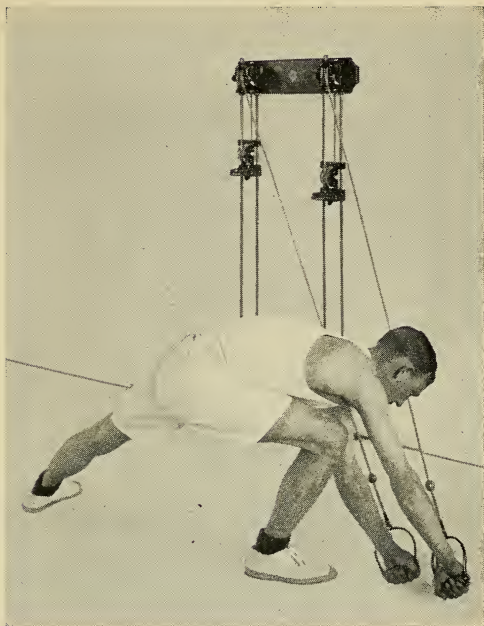


FIGURE 12

Lunge to Right, Hands to Floor.

EXERCISE 19

Position as in Figure 1

1. Arms from **position** to vertical.
2. Lunge to right with hands to floor beyond right foot. (See Fig. 12).
3. Return arms to vertical.
4. And to **position**.

EXERCISE 20

This exercise may be varied by lunging to the left side, and also by alternating first to the right and then to the left.

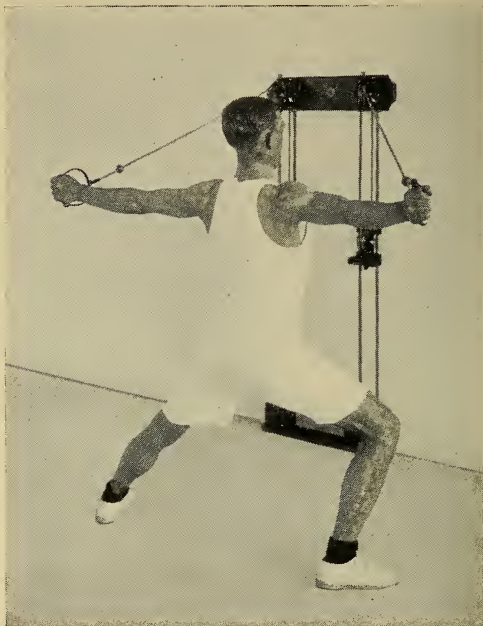


FIGURE 13

Lunge to Right Side, Arms in Side Horizontal.

EXERCISE 21

Position as in Figure 1

1. Arms from **position** to front horizontal.
2. Lunge right side with arms in side horizontal. (See Fig. 13).
3. Return to front horizontal.
4. And to **position**.

EXERCISE 22

The last exercise may be varied by lunging to the left and also by alternating the lunges.

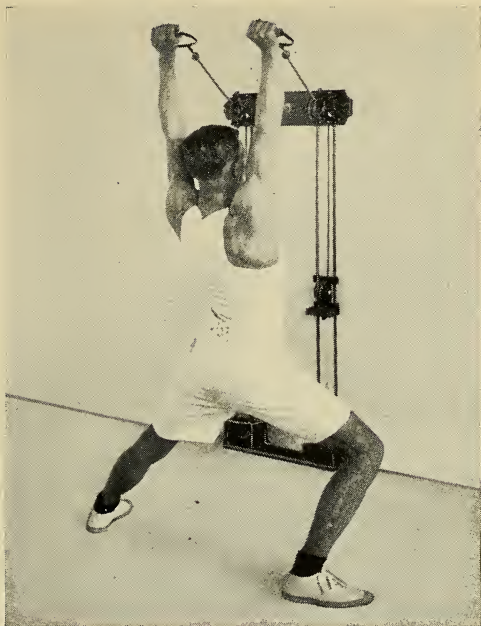


FIGURE 14

Lunge to Right Side, Arms to Vertical.

EXERCISE 23

Position as in Figure 1

1. From **position** bring arms to vertical, lunging to the right side. (See Fig. 14).
2. Return to **position**.
Repeat.

EXERCISE 24

Exercise 23 may be varied with lunges to the left and with alternation.

EXERCISE 25

Position as in Figure 1

1. From **position** hands to ankles. (Fig. 10).
2. Lunge to right side bringing arms to vertical. (Fig. 14).
3. Return, bringing hands to ankles.
Repeat.

EXERCISE 26

Exercise 25 may be varied with lunges to the left and with alternation.

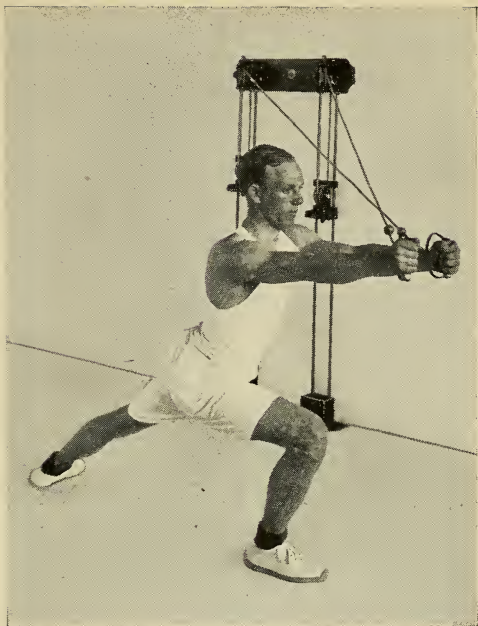


FIGURE 15

Lunge to the Right with One-Quarter Turn of the Body to the Right, Arms in Right Side Horizontal.

EXERCISE 27

Position as in Figure 1

1. From **position** bring arms to extreme "right side horizontal" lunging to the right with one-quarter turn of the body to the right. (See Fig. 15).
2. Return.
Repeat.

EXERCISE 28

Repeat Ex. 27 on the left.

EXERCISE 29

Variations in 27 and 28 may be secured by introducing other positions of the arms between lunges.

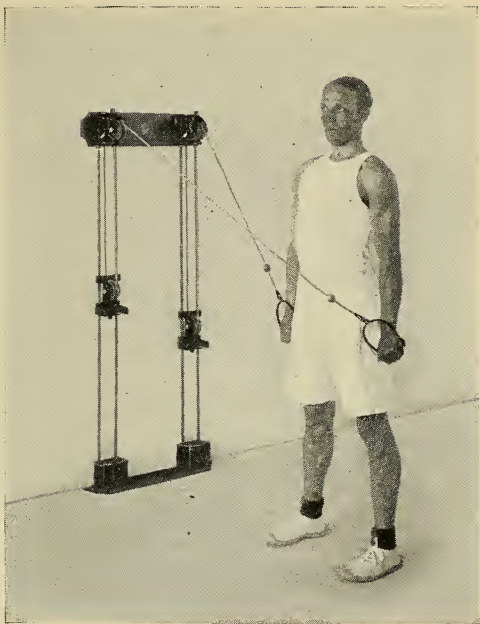


FIGURE 16

Right side to machine.

GROUP II

Position—right side to machine, (Fig. 16),
using chest pulleys.

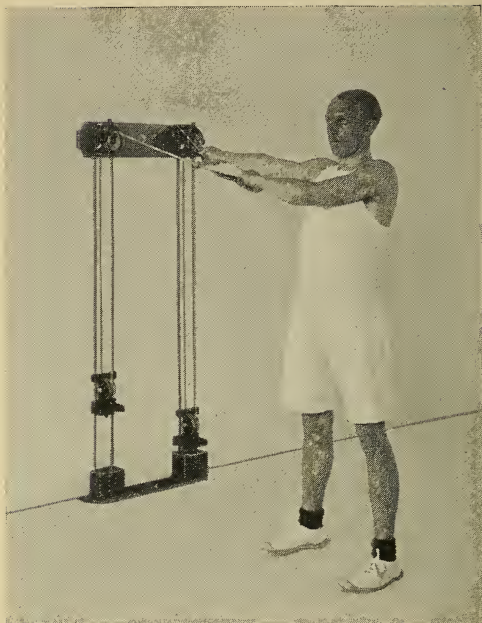


FIGURE 17

Arms in "Right Side Horizontal," Right Side to Machine.

EXERCISE 30

Position as in Figure 16

1. From **position** to right side horizontal.
(See Fig. 17).
2. Return to **position**.

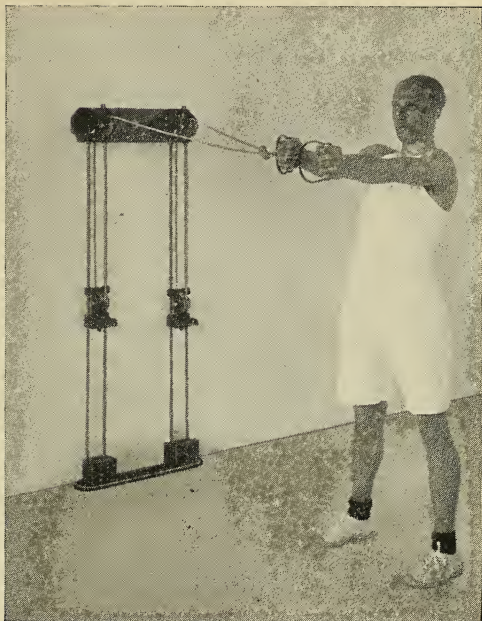


FIGURE 18

Arms in Front Horizontal.

EXERCISE 31

Position as in Figure 16

1. From **position** to right side horizontal.
- 2.. To front horizontal. (See Fig. 18).
3. Right side horizontal.
4. **Position.**

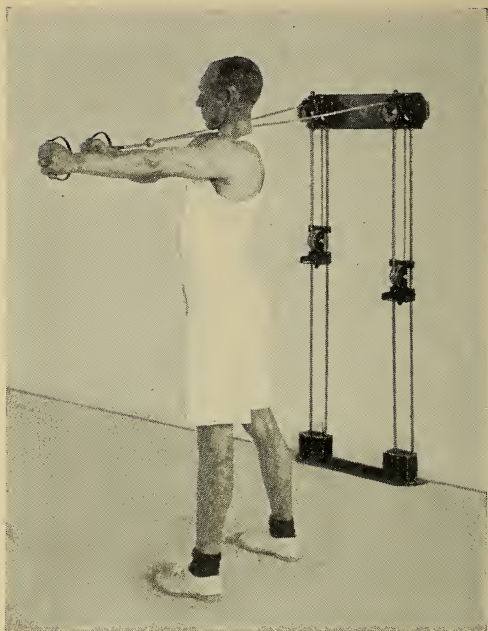


FIGURE 19

Arms in "Left Side Horizontal," Right Side to Machine.

EXERCISE 32

Position as in Figure 16

1. From **position** to right side horizontal.
2. Through front horizontal to left side horizontal. (See Fig. 19).
3. Front horizontal.
4. To **position**.

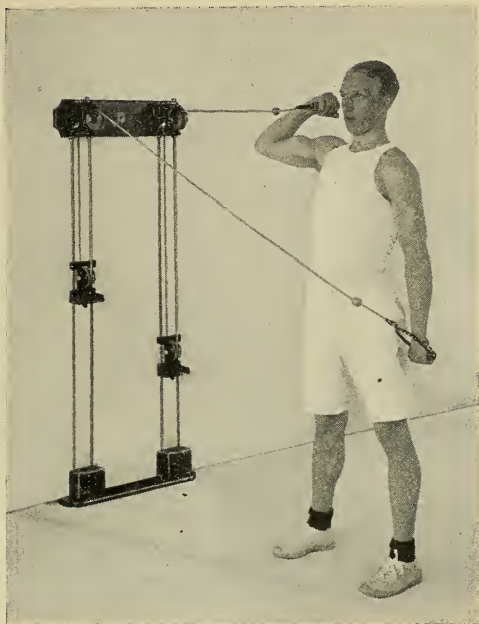


FIGURE 20

Right Arm Flexed to Shoulder, Right Side to Machine.

EXERCISE 33

Position as in Figure 16

1. Right arm flex from **position** to shoulder.
2. Return. (See Fig. 20).



FIGURE 21

Arms in Vertical, Right Side to Machine.

EXERCISE 34

Position as in Figure 16

1. From **position** through "right side horizontal" to vertical.
2. Return. (See Fig. 21).

EXERCISE 35

Exercises 30, 31, 32, 33 and 34 may be repeated with the left side to the machine.

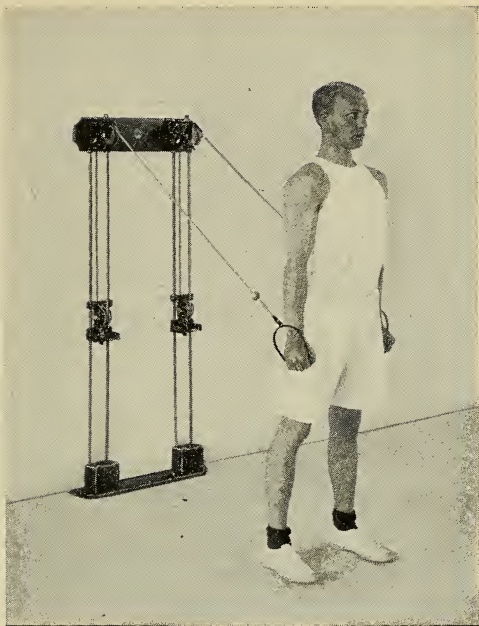


FIGURE 22

Back to the Machine. Arms at Rest in Side Hang.

GROUP III

Position—with back to the machine, arms at rest in side hang (Fig. 22), using chest in pulleys.

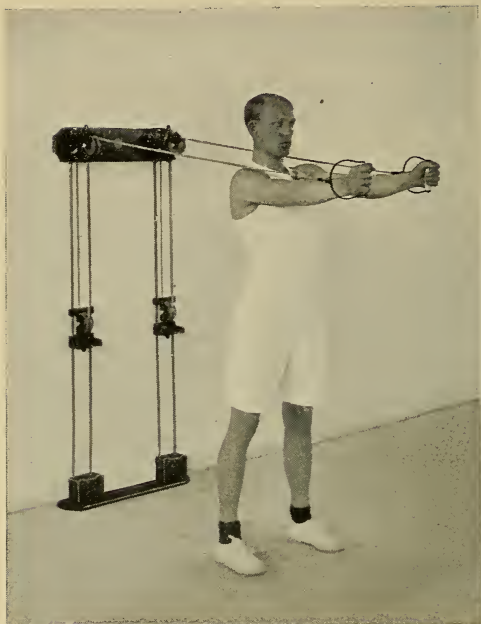


FIGURE 23

Arms in Front Horizontal.

EXERCISE 36

Position as in Figure 22

1. Arms from **position** to front horizontal
(See Fig. 23).
2. Return.

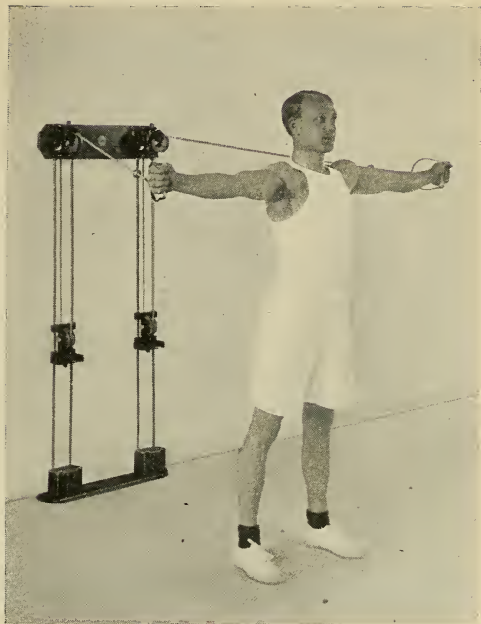


FIGURE 24

Arms in Side Horizontal.

EXERCISE 37

Position as in Figure 22

1. Arms from **position** to front horizontal.
2. To side horizontal (See Fig. 24).
3. Front horizontal.
4. **Position.**

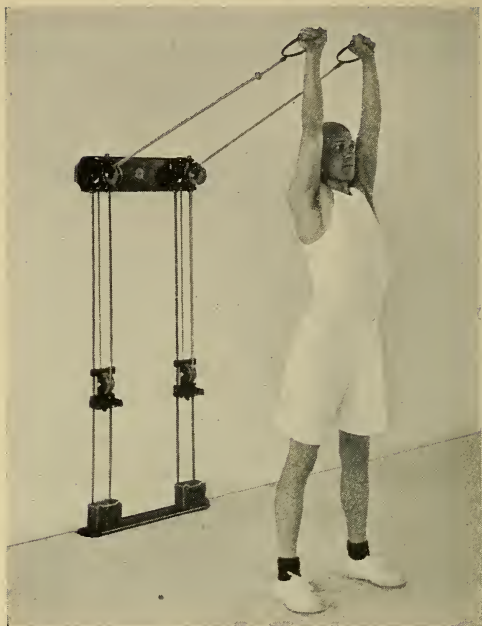


FIGURE 25

Arms in Vertical.

EXERCISE 38

Position as in Figure 22

1. Arms from **position** through front horizontal to vertical. (See Fig. 25).
2. Return.

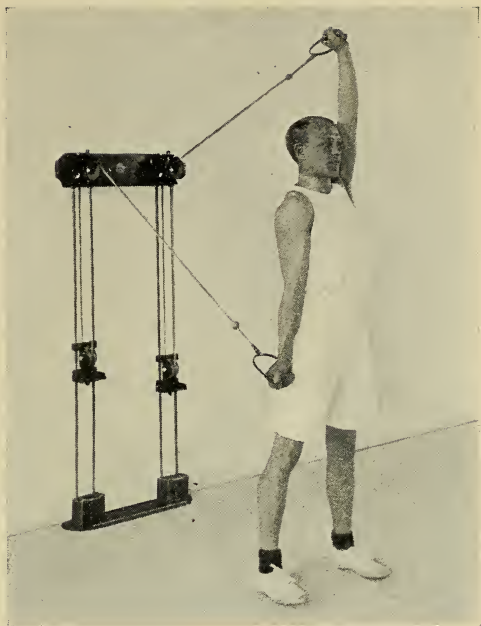


FIGURE 26

Alternate Right and Left Arms to Vertical.

EXERCISE 39

Position as in Figure 22

1. Alternate right and left arms to vertical passing in front horizontal.
(See Fig. 26)

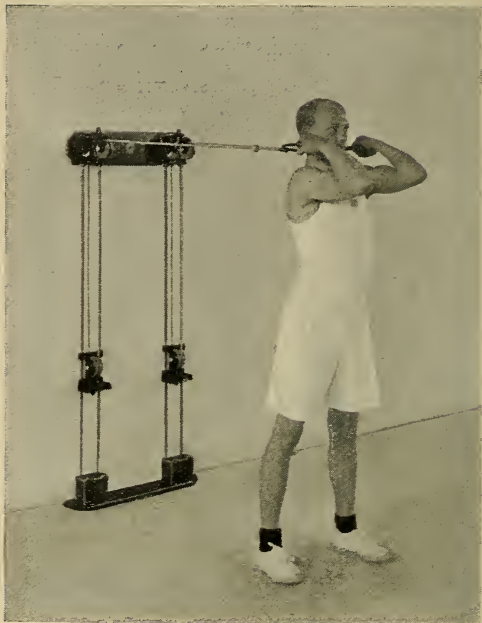


FIGURE 27

Arms Flexed to Shoulders.

EXERCISE 40

Position as in Figure 22

1. From **position** through front horizontals, flex to shoulders. (See Fig. 27).
2. Return.

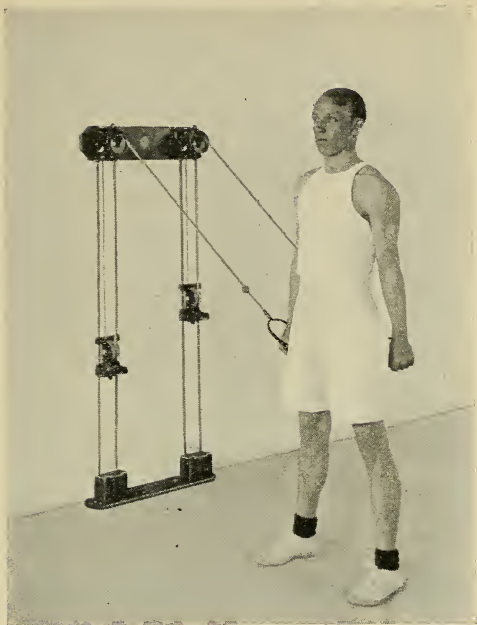


FIGURE 28

Right side to Machine, Left Pulley
Rope Behind.

GROUP IV

Position—Right side to machine, left pulley rope behind(Fig. 28), using chest pulleys.

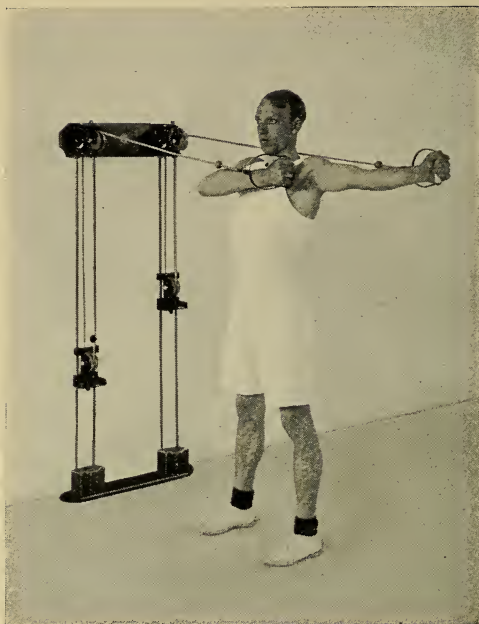


FIGURE 29

Arms in "Left Side Horizontal."

EXERCISE 41

Position as in Figure 28

1. From **position** to "left side horizontal"
(See Fig. 29). (Right elbow bent).
2. Return.

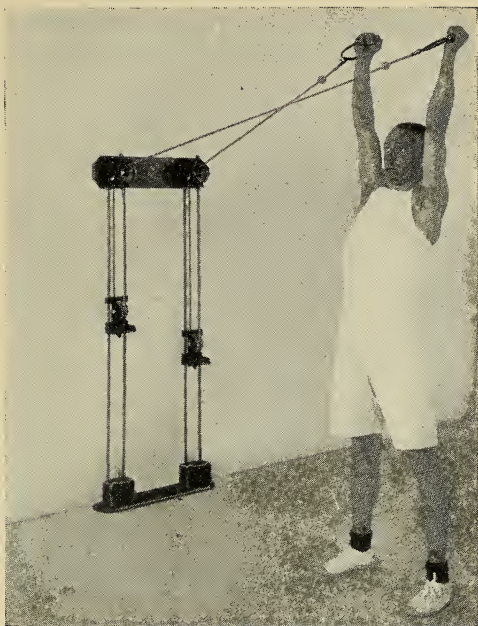


FIGURE 30

Arms in Vertical.

EXERCISE 42

Position as in Figure 28

1. From **position** through left side horizontal to vertical. (See Fig. 30).
2. Return.

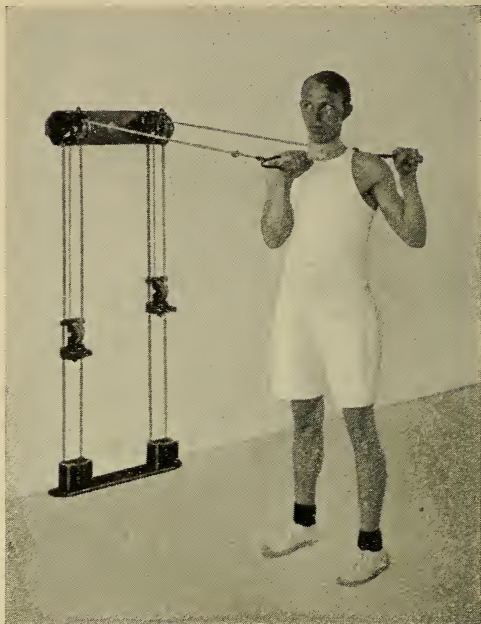


FIGURE 31

Arms Flexed to Shoulders.

EXERCISE 43

Position as in Figure 28

1. From **position** to left side horizontal.
2. Flex to shoulders. (See Fig. 31).
3. Return to side horizontal.
4. To **position**.

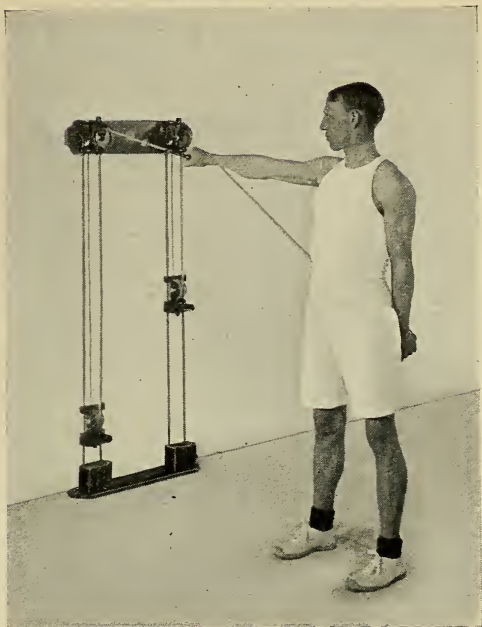


FIGURE 32

Right Arm to Right Side Horizontal.

EXERCISE 44

Position as in Figure 28

1. Right arm from **position** to right side horizontal (See Fig. 32).
2. Return.

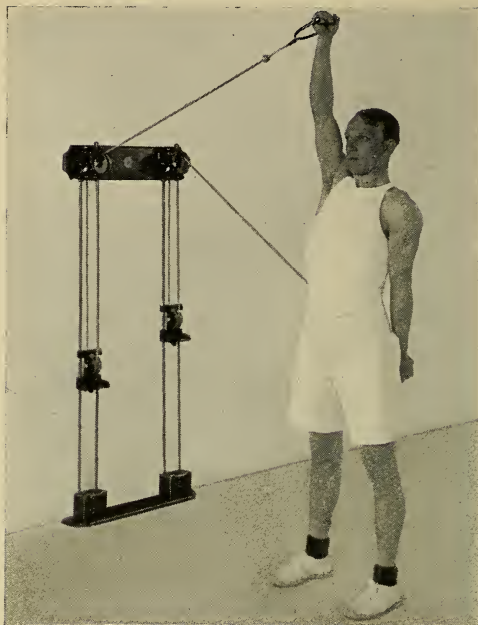


FIGURE 33

Right Arm in Vertical.

EXERCISE 45

Position as in Figure 28

1. Right arm from **position** through right side horizontal to vertical (See Fig. 33).
2. Return.

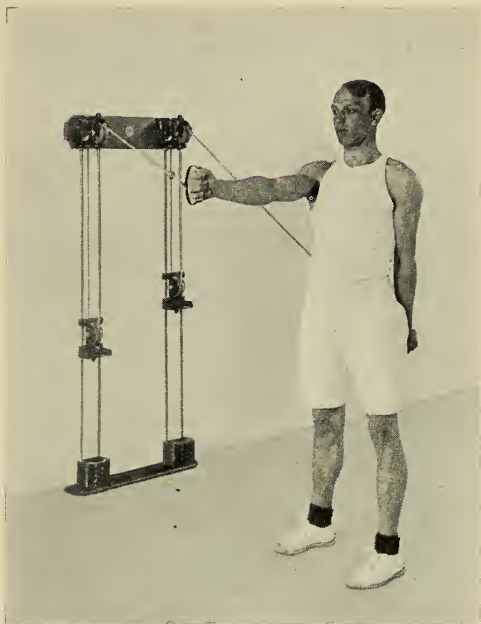


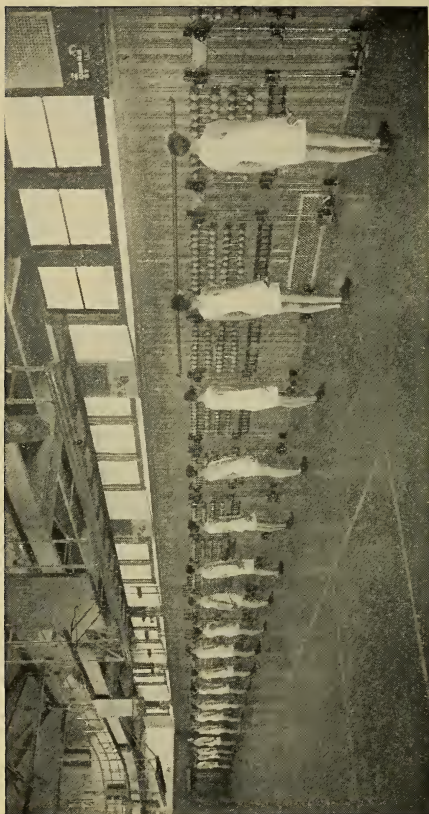
FIGURE 34

Right Arm in Front Horizontal.

EXERCISE 46

Position as in Figure 28

1. Right arm from **position** to right side horizontal.
 2. To front horizontal. (See Fig. 34).
 3. Return to right side horizontal.
 4. To **position**.
- Repeat left side to machine.



Class in "Position". Figure 1, Chest Weight Exercises.
College of the City of New York.

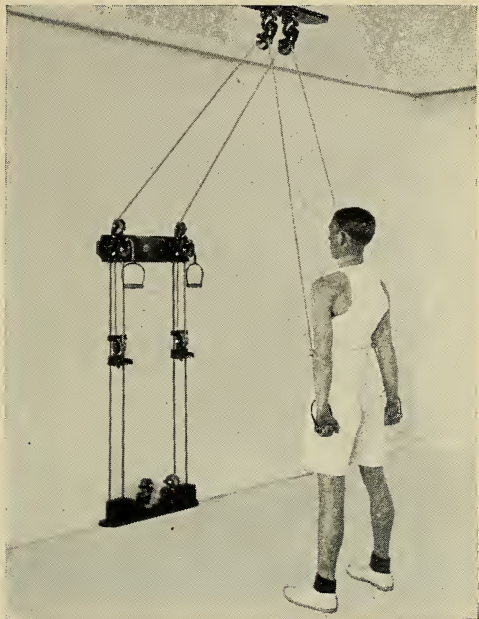


FIGURE 35

Position, Face Machine, Arms at Rest.

GROUP V

Position—Face machine, arms in rest at side hang (Fig. 35), using overhead pulleys.

Note: This use of the chest weights is well suited to slow movements accompanied by deep breathing.

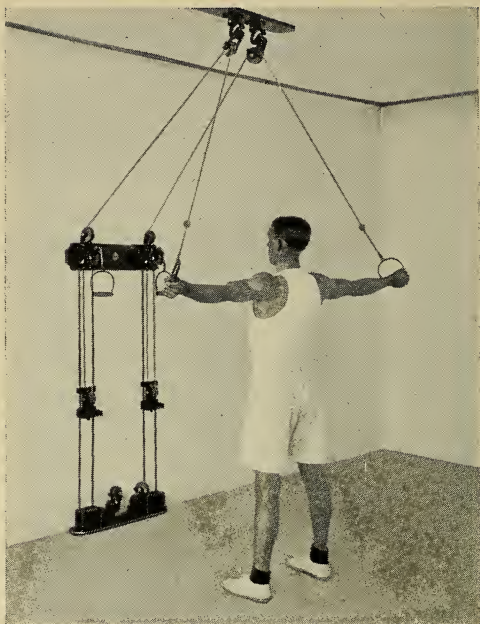


FIGURE 36

Arms in Side Horizontal.

EXERCISE 47

Position as in Figure 35

1. Arms from **position** to side horizontal.
(See Fig. 36).
2. Return.

EXERCISE 48

Position as in Figure 35

1. Arms from **position** to front horizontal.
2. Return.

EXERCISE 49

Position as in Figure 35

1. Arms through front horizontal to vertical.
2. Return to position.

EXERCISE 50

Position as in Figure 35

1. Arms through side horizontal to vertical.
2. Return.

EXERCISE 51

Position as in Figure 35

1. From **position** bring hands between ankles.
2. Through front horizontal to vertical.
3. Return bringing hands between ankles.

EXERCISE 52

Same as Exercise 51 through side horizontals to vertical and return.

EXERCISE 53

Position as in Figure 35 with arms in vertical.

1. Arms to front horizontal.
2. Return to vertical.

EXERCISE 54

Position as in Figure 35 with arms in vertical.

1. Arms to side horizontal.
2. Return to vertical.

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Apparatus for these Exercises will be found on Pages 95 to 112. Terms and discounts will be given on application.

NARRAGANSETT MACHINE CO.

Providence, R. I., U. S. A.

GYMNASIUM OUTFITTERS.

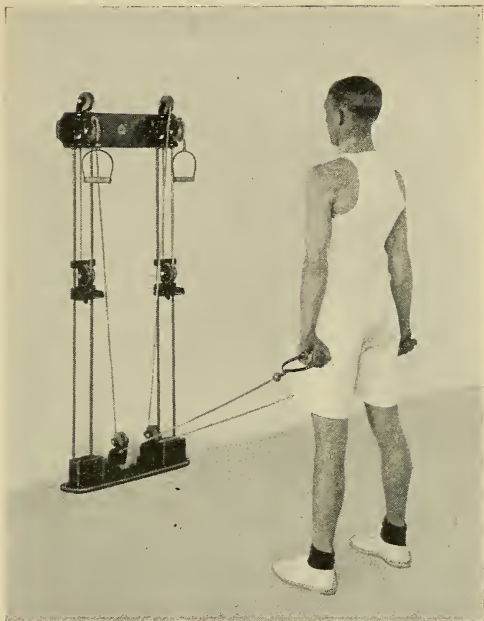


FIGURE 37

Face Machine, Arms in Rest at Side Hang.

GROUP VI

Position—Face machine, arms in rest at side hang (Fig. 37), using floor pulleys.

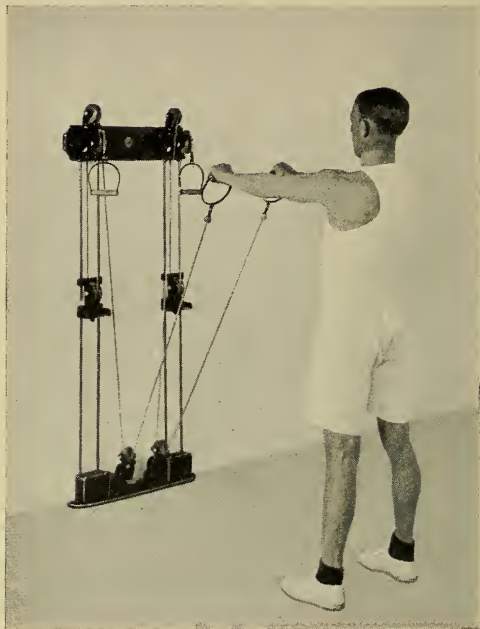


FIGURE 38

Arms in Front Horizontal.

EXERCISE 55

Position as in Figure 37

1. From **position** to front horizontal. (See Fig. 38).
2. Return to **position**.

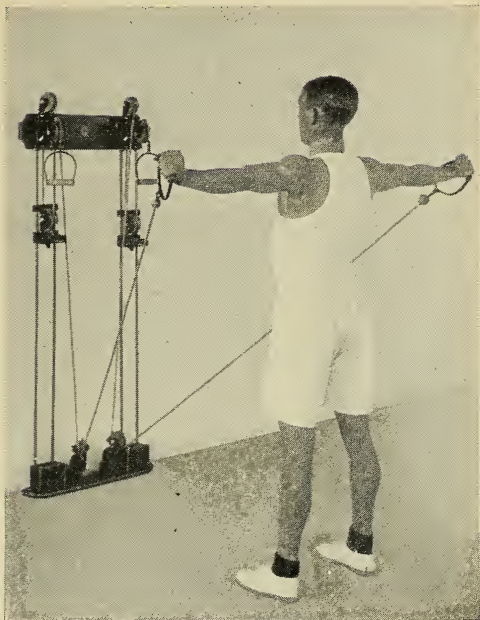


FIGURE 39

Arms in Side Horizontal.

EXERCISE 56

Position as in Figure 37

1. From **position** to side horizontals (See Fig. 39).
2. Return to **position**.

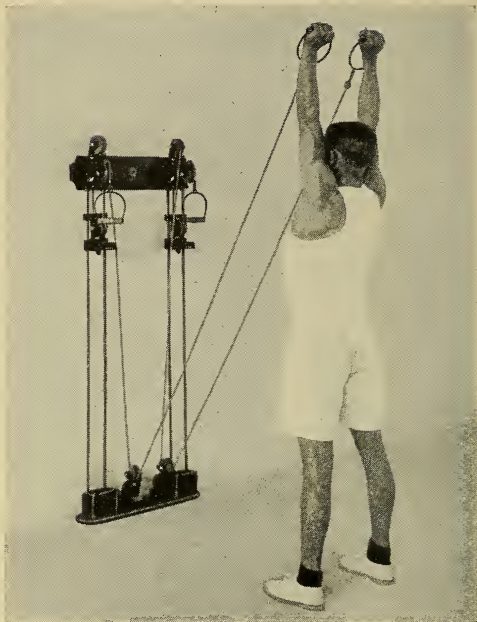


FIGURE 40

Arms in Vertical.

EXERCISE 57

Position as in Figure 37

1. From **position** through front horizontals to vertical (See Fig. 40).
2. Return to **position**.

EXERCISE 58

Position as in Figure 37

1. From **position** through side horizontal to vertical.
2. Return.

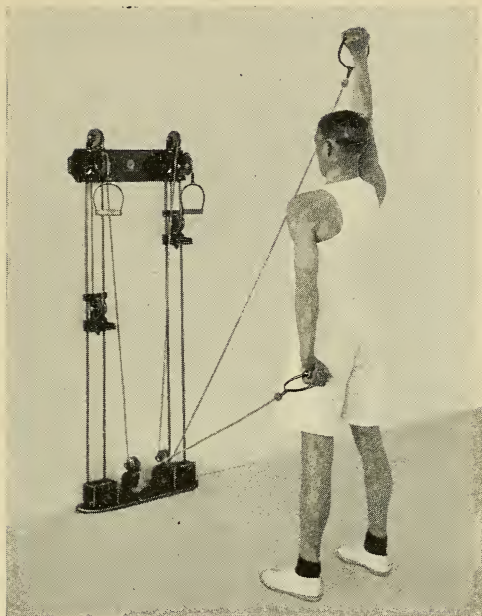


FIGURE 41

"Alternate Right and Left Arm to Vertical."

EXERCISE 59

Position as in Figure 37

Alternate right and left arms to vertical, passing each other in front horizontal.
(See Fig. 41).

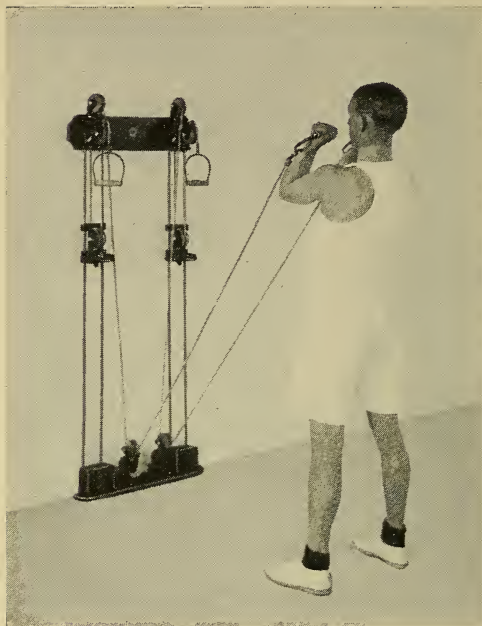


FIGURE 42

Arms Flexed to Shoulders.

EXERCISE 60

Position as in Figure 37

1. From **position** through front horizontals, flex to shoulders. (Elbows high). (See Fig. 42).
2. Return to **position**.

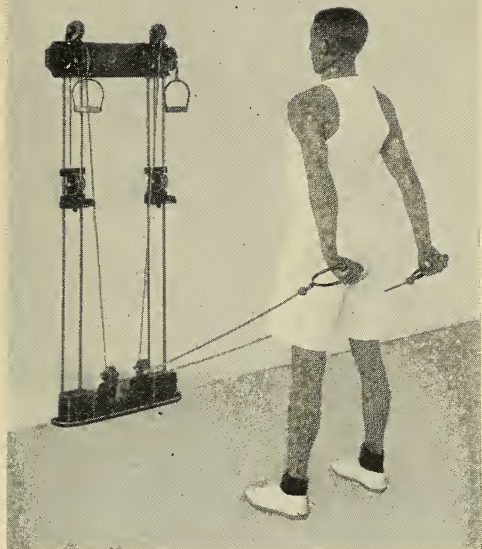


FIGURE 43

"From **Position**, Push Back."

EXERCISE 61

Position as in Figure 37

1. From **position** push back. (See Fig. 43).
2. Return to **position**.

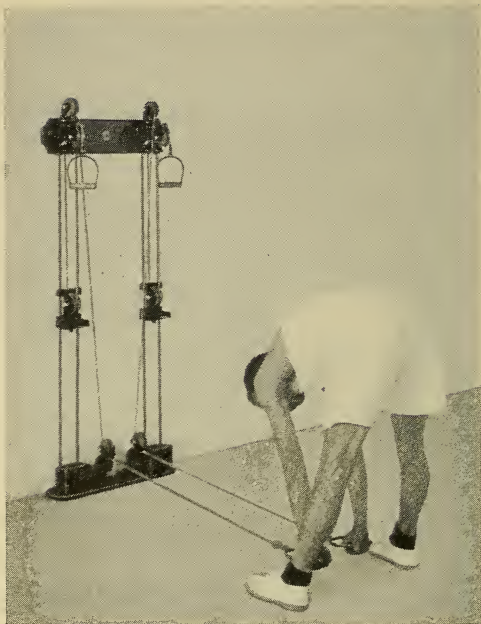


FIGURE 44

Hands Between Ankles.

EXERCISE 62

Position as in Figure 37

1. From **position** to front horizontal.
 2. Between ankles (See Fig. 44).
 3. To front horizontal.
 4. To **position**.
- Repeat.



FIGURE 45

Arms in Vertical, on Toes.

EXERCISE 63

(Step close to Machine).

Position as in Figure 37

1. Bring hands to shoulders.
2. Extend arms to vertical (See Fig. 45). and rise on toes.
3. Flex to shoulders (Bring heels to floor).
4. Return to **position**.
Repeat.

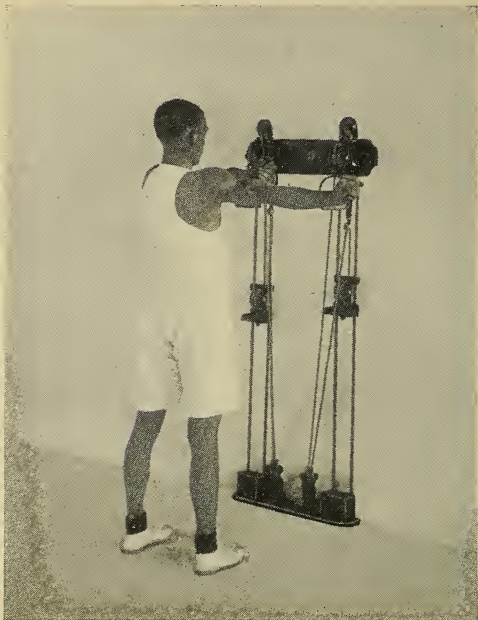


FIGURE 46

Arms in Right Side Horizontal.

EXERCISE 64

Position as in Figure 37

1. To "right side horizontal" (see Fig. 46).
 2. Return.
- Repeat to the left.

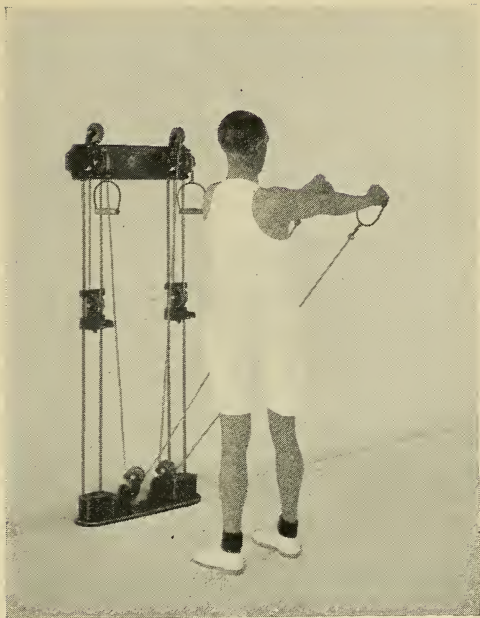


FIGURE 47

Arms in Right Side Horizontal; Quarter Turn of
Body to Right.

EXERCISE 65

Position as in Figure 37

1. To "right side horizontal" (quarter turn of
body to right). (See Fig. 47).
2. Return.
Repeat to the left.

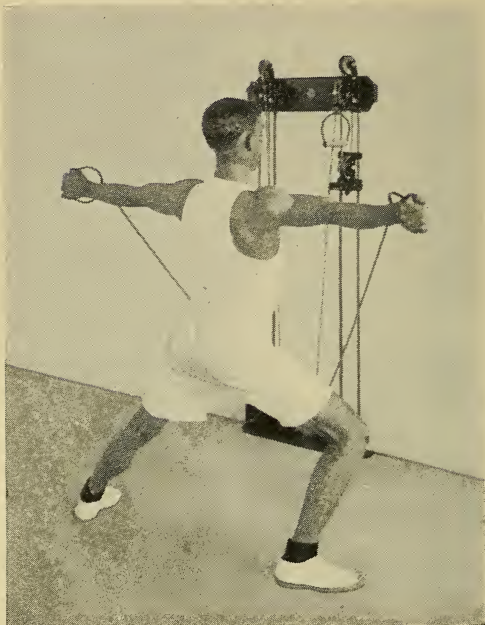


FIGURE 48

Lunge to Right. Arms in Side Horizontal.

EXERCISE 66

Position as in Figure 37

1. Lunge right, arms to side horizontal. (See Fig. 48).
2. Return.

EXERCISE 67

Position as in Figure 37

Same as Exercise 66 to the left.

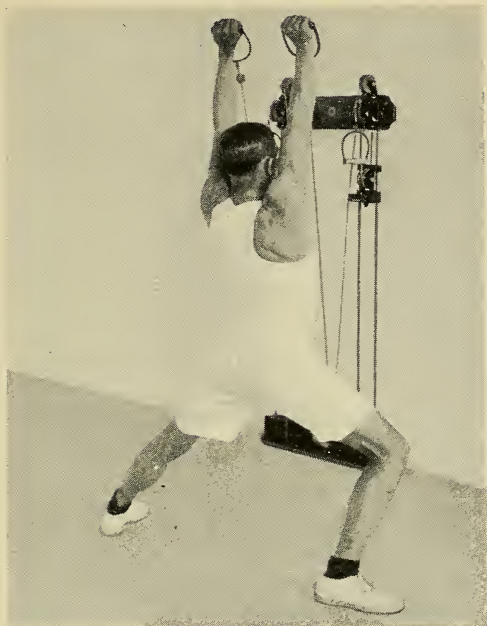


FIGURE 49

Lunge Right Arm in Vertical.

EXERCISE 68

Position as in Figure 37

1. Lunge right, arms to vertical. (See Fig. 49).
2. Return.

EXERCISE 69

Position as in Figure 37

Same as Exercise 68 to the left.

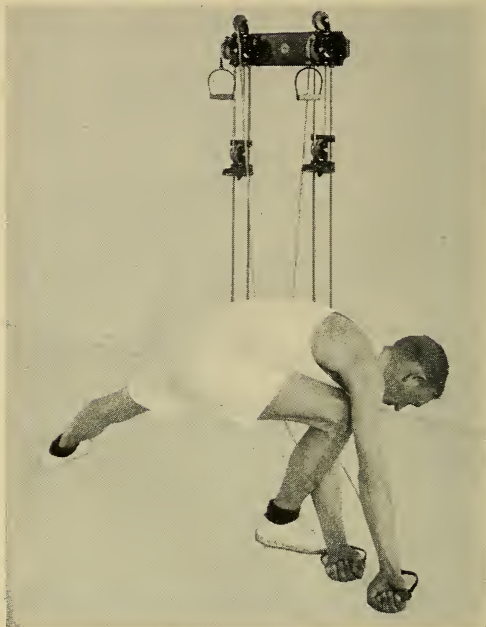


FIGURE 50

Lunge Right, Hands to Floor Outside Left Foot.

EXERCISE 70

Position as in Figure 37

1. Lunge right, hands to floor outside right foot.
(See Fig. 50).
2. Return.

EXERCISE 71

Position as in Figure 37

Same as Exercise 70 to the left.



FIGURE 51

Lunge Right, Quarter Body Turn to Right, Arms in
Right Horizontal.

EXERCISE 72

Position as in Figure 37

1. Lunge right, quarter turn of body to the right, arms at "right side horizontal."
(See Fig. 51).
2. Return.



Class in Chest Weight Exercises.
College of the City of New York.

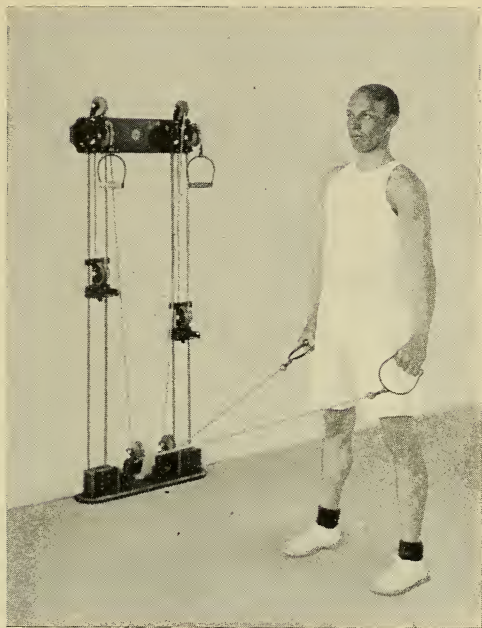


FIGURE 52

Right Side to Machine.

GROUP VII

Position—Right side to machine, (Fig. 52), using floor pulleys.

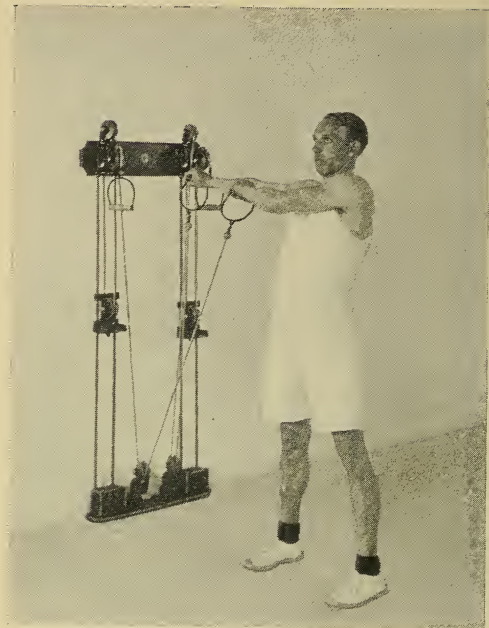


FIGURE 53

Arms to Right Side Horizontal.

EXERCISE 73

Position as in Figure 52

1. Arms to "right side horizontal." (See Fig. 53).
2. Return.

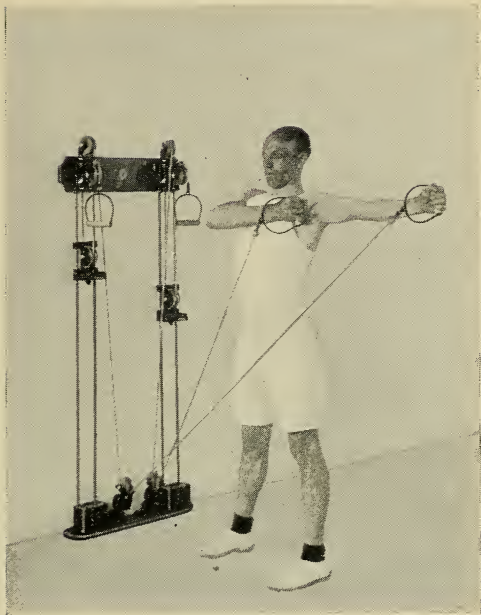


FIGURE 54

Arms in Left Side Horizontal; Right Elbow Slightly Bent

EXERCISE 74

Position as in Figure 52

1. Arms to "left side horizontal." (See Fig. 54).
2. Return.

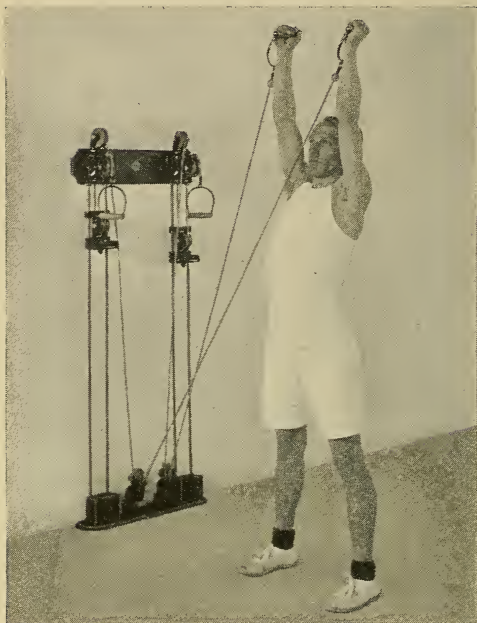


FIGURE 55

Arms in Vertical.

EXERCISE 75

Position as in Figure 52

1. Arms through "right side horizontal" to vertical. (Fig. 55).
2. Return.

EXERCISE 76

Position as in Figure 52

1. Arms through left side horizontal to vertical.
2. Return.

EXERCISE 77

Exercises 73, 74, 75 and 76 may be repeated, with left side to machine.

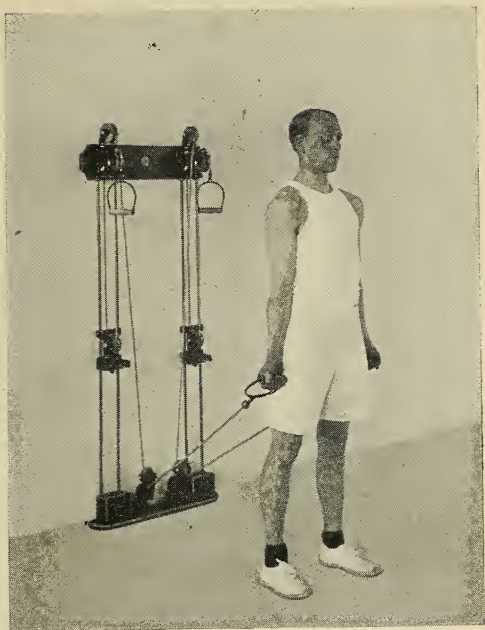


FIGURE 56

Back to Machine.

GROUP VIII

Position—Back to machine, (Fig. 56), using floor pulleys.

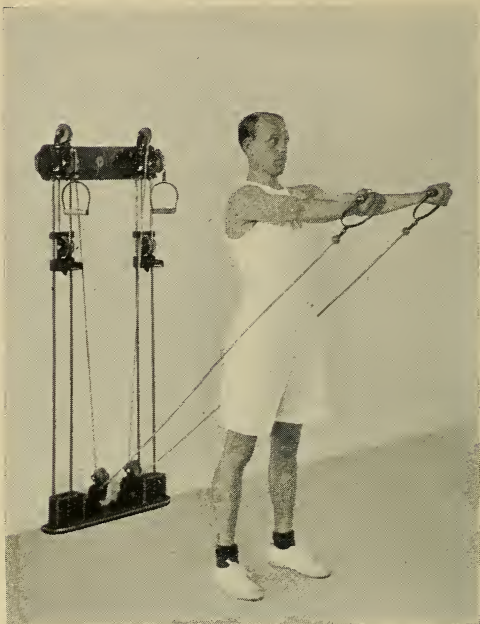


FIGURE 57

Arms in Front Horizontal.

EXERCISE 78

Position as in Figure 56

1. Arms to front horizontal. (See Fig. 57).
2. Return.

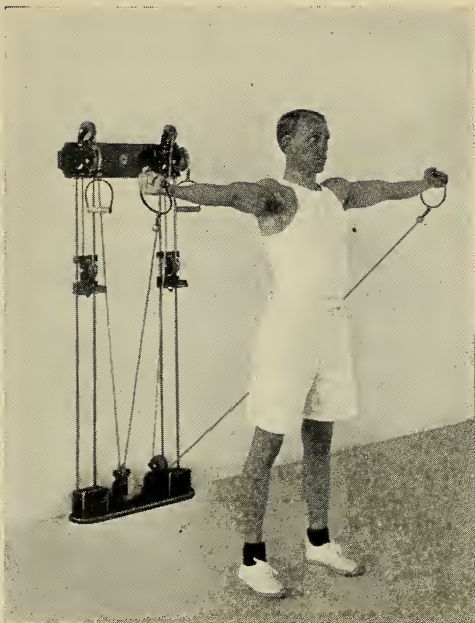


FIGURE 58

Arms in Side Horizontal.

EXERCISE 79

Position as in Figure 56

1. Arms to side horizontal. (See Fig. 58).
2. Return.

NARRAGANSETT MACHINE CO.

The Seventy-nine Cuts illustrating these Exercises grouped on a Chart, (24 x 36) will be sent in a roll for 15 cents to cover cost of mailing.

NARRAGANSETT MACHINE CO.

Providence, R. I., U. S. A.

GYMNASIUM OUTFITTERS.



FIGURE 59

Lying on Floor, Feet to Machine

GROUP IX

Position—Lying on back, feet close to machine. (Fig. 59) using floor pulleys.

Note: These movements are used to advantage with deep breathing exercises.

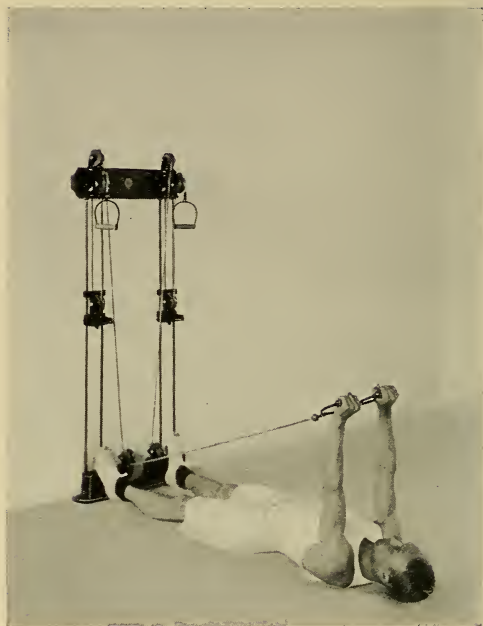


FIGURE 60

Arms in "Front Horizontal."

EXERCISE 80

Position as in Figure 59

1. Arms to "front horizontal." (See Fig. 60).
2. Return.

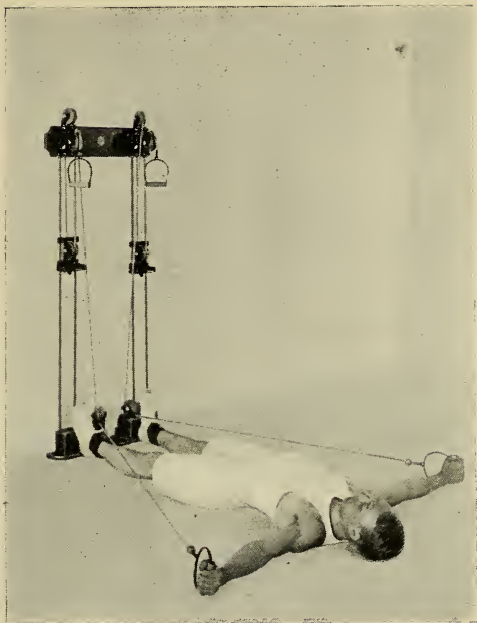


FIGURE 61

Arms in Side Horizontal.

EXERCISE 81

Position as in Figure 59

1. Arms to side horizontal. (See Fig. 61).
2. Return.



FIGURE 62

Arms in Vertical.

EXERCISE 82

Position as in Figure 59

1. Arms through side horizontal to "vertical."
(Fig. 62).
2. Return.

EXERCISE 83

Position as in Figure 59

1. Arms through "front horizontal" to "vertical".
2. Return.

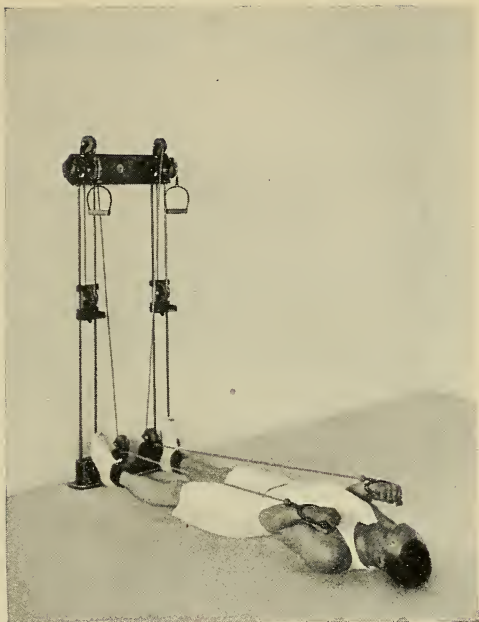


FIGURE 63

Arms Flexed to Shoulders.

EXERCISE 84

Position as in Figure 59

1. Flex to shoulders. (See Fig. 63).
2. Return.

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FIGURE 64

Position, Lying on Back, Feet to Machine. Arms in "Side Horizontal".

GROUP X

Position—Lying on back, feet to machine, as in Fig. 59, but farther from the machine. (Fig. 64.)

Note: The following movements are for the exercise principally of the abdominal muscles.



FIGURE 65

Right Knee Flexed.

EXERCISE 85

Position as in Figure 64

1. Flex right knee, bring right heel to buttock.
(Fig. 65).
2. Return.

EXERCISE 86

Same as Exercise 85 with left leg.



FIGURE 66

Both Knees Flexed

EXERCISE 87

Position as in Figure 64

1. Flex both knees, bringing heels to buttocks.
(Fig. 66).
2. Return.



FIGURE 67

Heels Raised from Floor.

EXERCISE 88

Position as in Figure 64

1. Raise heels from floor. (See Fig. 67).
2. Return.

Keep knees straight, legs close together
and toes pointed forward.



FIGURE 68

Right Leg in "Front Horizontal".

EXERCISE 89

Position as in Figure 64

1. Raise right leg to "front horizontal."
(Fig. 68).
2. Return.

EXERCISE 90

Repeat Exercise 89 with left leg.

EXERCISE 91

Exercises 89 and 90 may be alternated.



FIGURE 69

Both Legs in "Front Horizontal."

EXERCISE 92

Position as in Figure 64

1. Raise both legs to "front horizontal."
(Fig. 69).
2. Return.

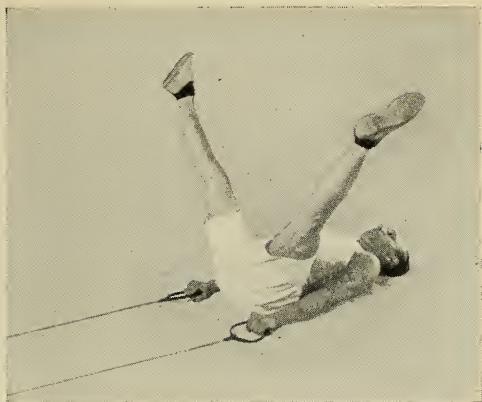


FIGURE 70

Leg Spread from "Front Horizontal."

EXERCISE 93

Position as in Figure 64

1. Raise both legs to "front horizontal". (Fig. 69).
2. Spread. (Fig. 70).
3. Front horizontal.
4. Return to **position**.

EXERCISE 94

Position as in Figure 64

Raise and abduct right leg.



FIGURE 71

Both Legs Raised and Spread (Abducted).

EXERCISE 95

Position as in Figure 64

1. Abduct (spread) both legs. (Fig. 71).
2. Return.

EXERCISE 96

The movements described in Exercises 94, and 95 may be performed more easily if the legs are brought to the floor at the end of the spread.



FIGURE 72

Head and Shoulders Raised from Mat.

EXERCISE 97

Position as in Figure 64

1. Raise head from floor (Fig. 72).
2. Return.



FIGURE 73

Arms in Side Horizontal and Trunk in Sitting **Position**.

EXERCISE 98

Position as in Figure 64

1. Bring arms to side horizontal and trunk to sitting **position**. (Fig. 73).
2. Return to **position**.



FIGURE 74

Arms to Vertical and Trunk in Sitting **Position**.

EXERCISE 99

Position as in Figure 64

1. Bring arms to vertical and trunk to sitting **position**. (Fig. 74).
2. Return to **position**.



FIGURE 75

Body Arched on Floor.

EXERCISE 100

1. Arch body on floor. (Fig. 75).
2. Return to **position**.
(A hard exercise for the extensor muscles of the neck, back, buttocks, thighs and legs).

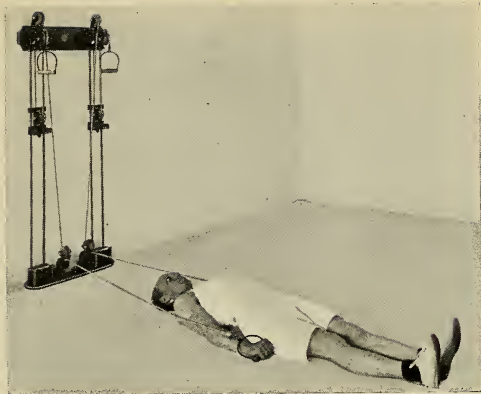


FIGURE 76

Lying on Back, Head to Machine.

GROUP XI

Position—Lying on back, head to machine.
(Fig. 76.)

Note:—These movements may be accompanied by deep breathing exercises. Inhale as the arms leave the side position and exhale on the return.

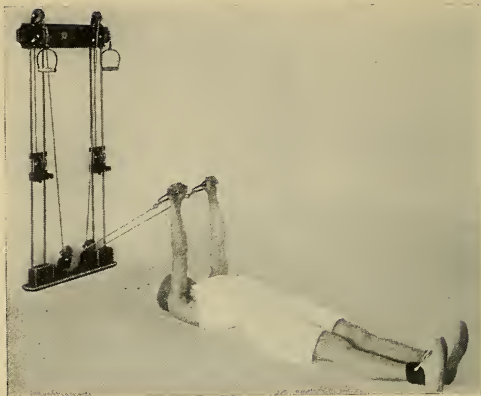


FIGURE 77

Arms in "Front Horizontal."

EXERCISE 101

Position as in Figure 76

1. Arms to front horizontal (Fig. 77).
2. Return.

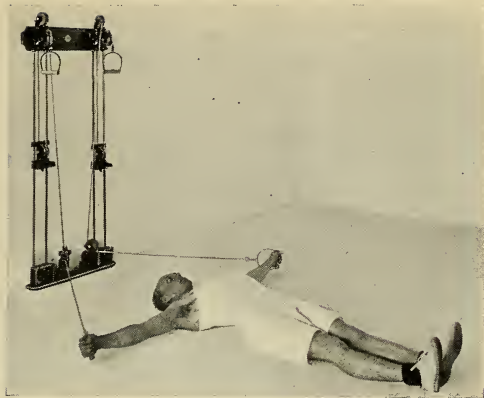


FIGURE 78

Arms in Side Horizontal.

EXERCISE 102

Position as in Figure 76

1. Arms to "side horizontal." (See Fig. 78).
2. Return.



FIGURE 79

Arms in "Vertical."

EXERCISE 103

Position as in Figure 76

1. Arms through side horizontal to "vertical." (Fig. 79).
2. Return.

EXERCISE 104

Position as in Figure 76

1. Arms through "front horizontal" to "vertical." (Fig. 79).
2. Return.

“PHYSIOLOGICAL EFFECTS OF EXERCISE.”

(a) An immediate, transient, local increase in the blood supply of the muscle.

(b) An immediate, transient, local increase in the lymphatic and venous drainage of the muscle.

(c) An immediate and transient increase in the heart rate, blood pressure, and rate of respiration.

(d) An immediate and transient increase in the superficial circulation.

(e) A later, more lasting increase in the size, strength, and functional endurance of the exercised muscle.

(f) A later, more lasting decrease in the length of the exercised muscle.

(g) A later, more lasting increase in the size and strength of the tendons, ligaments, sheaths, bones, and joints directly associated in exercise.

(h) A later, more lasting increase in the size and efficiency of the nerve cells in the exercised motor centres.

(i) An improvement and perfection of old neuromuscular coordinations.

(j) The establishment of new neuromuscular coordination with the possibility of developing new paths for the afferent and efferent nerve impulses.

(k) An increase in the size, strength, functional endurance, and efficiency of the heart.

(l) An improvement in the regulation of the vasomotor balance.

(m) An improvement in the blood and lymph circulation.

(n) An increase in the strength, endurance, and coordination of the musculature of respiration.

(o) An improvement in the depth and rhythm of the thoracic and diaphragmatic movements governing the ventilation of the pulmonary alveoli, and augmenting the speed of the general lymphatic and venous circulation.

(p) An improvement in the operation of the heat-regulating mechanisms.

(q) A perfection of the mutual neuromuscular coordinations associating cardiac, circulatory, pulmonary and vasomotor activities.

(r) An increase in general katabolic activity.

(s) An increased circulation of the products of the chemical activities of all the tissues and organs associated directly and indirectly in physical exercise.

(t) A larger hormone effect of these products (among them carbon dioxide, acid potassium phosphate, sarcolactic acid, ammonia, creatin, and the endogenous purin bases.)

(u) An increase in the elimination of carbon dioxide by the lungs; of water and carbon dioxide by the skin; of uric acid and creatin by the urine.

(v) A desire for rest after exercise, and a desire for sleep at the end of the day.

(w) An improved appetite, better digestion, more food in the blood for the tissues, a greater demand for food by the tissue cells (a benignant circle).

(x) An increase in the anabolic activities of all the tissues concerned directly and indirectly in exercise, with, therefore, a general structural and functional benefit.

(y) A gain in weight or an increased growth, or both, continuing until the metabolic equilibrium is re-established.

(z) A perfection of the physiological efficiency of the whole organism, with consequently.

(a¹) A better development of the powers of potential and active immunity.

GYMNASTIC APPARATUS

FOR HOME USE

On the following pages will be found a selection of Gymnastic Apparatus suitable for Home Use. As this Apparatus is designed and made for gymnasium use, it is substantial, well finished and of the best materials.

Any of this apparatus will be furnished direct from the factory. Write for further particulars and discounts.

NARRAGANSETT MACHINE CO.

PROVIDENCE, R. I., U. S. A.

Gymnasium Outfitters.

CHEST WEIGHTS

The Chest Weights needed for the preceding exercises are as follows:

- No. 10 Chest Weights for Groups I to IV.
No. 260 Intercostal Weight Groups I to V.
No. 265 Back and Loin Weight. All except No. V.

All of the exercises may be made on the No. 65, No. 269 or the No. 262 Pulley Weights.

THE STANDARD CHEST WEIGHT

SPECIFICATION

Hard Wood Wheels with
Steel Shaft.

Self-Lubricating Noiseless
and Interchangeable
Bearings.

Rods Screwed in Brackets.

Baked Japan Finish.

Buffers at top of Rods.

Hollow Swivel Blocks.

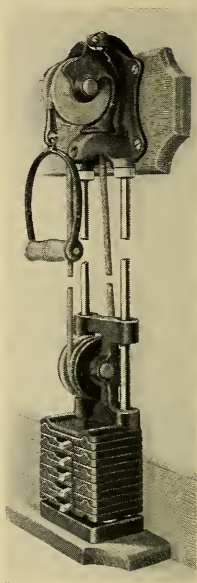
Handles with Swivel
Joints.

Felted Weight Holders.

Under-Lift Weights.

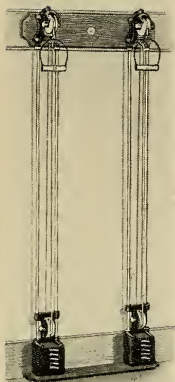
Grey Braided Cord.

Selected Oak Woodwork,
Natural Finish.



The principal adopted
in these Chest Weights
enables us to furnish sub-
stantial and durable machines at a moderate
cost. There are more gymnasiums fitted with
this grade than any other.

NO. 10 CHEST WEIGHT.



The most popular machine. Thousands are in use in gymnasiums, and many in homes. It has the compound rope, which allows twice the usual length of movement, and swivel blocks that permit

movements in every direction

It is noiseless and self lubricating.

This machine has the under-lift weights. See illustration on page 97.

On these the weight can be changed by a touch of the toe, and cannot be taken from the machine or get lost.

No. 10 CHEST WEIGHT, Standard. Double set of Pulleys, rods, weights, etc. as on page 96

\$16.00

DUPLEX CHEST WEIGHT.

The ingenious use of both ends of the rope, first introduced by us, enables us to furnish several com-

prehensive and practical Chest Weights. The most desirable forms are listed on this and the following pages; but usually any desirable combination of two or three machines can be made.

INTERCOSTAL CHEST WEIGHT

No. 260 DUPLEX INTERCOSTAL CHEST WEIGHT,
Standard Double set

pulleys, rods, weights, etc., as specified on
page 96

\$26.00

BACK AND LOIN CHEST WEIGHT

One of the most valuable pieces of apparatus in the gymnasium and the best adapted for Home use. The machine used for all of the lie-down exercises. Combined with the No. 260 Intercostal, it is a complete Home Gymnasium.

BACK AND LOIN CHEST WEIGHT

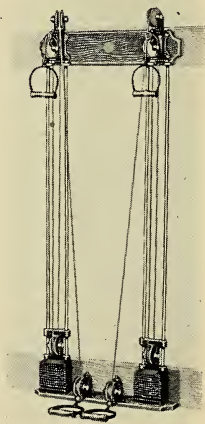
No. 265 DUPLEX BACK AND LOIN CHEST WEIGHT, Standard. Double set of pulleys, weights, etc., as specified on page 96, **\$26.00**

INTERCOSTAL AND BACK AND LOIN

Combination Pulley Weight

On this machine a combination of Nos. 260 and 265, all the Chest Weight Exercises shown on the preceeding pages can be made.

No. 262 Combination Intercostal and Back and Loin Weight, Standard. Double set of Pulleys, weights, etc. as specified on page 96 **\$30.00**

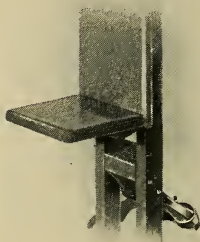
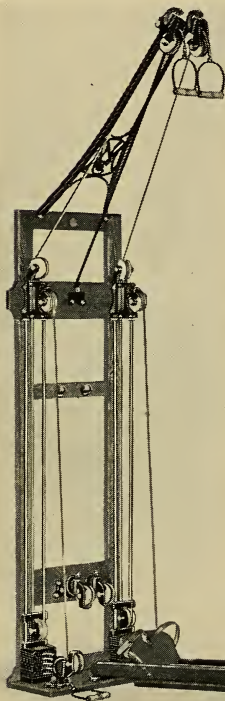


NARRAGANSETT MACHINE CO.

SARGENT COMBINATION PULLEY WEIGHT.

This Pulley Weight was designed by Dr. D. A. Sargent, to provide the desirable features of the gymnasium machines, in compact form, for home use. It comprises a chest weight with back board, intercostal or chest expander and developer pulleys, and a rowing weight with sliding seat.

NO. 65 PULLEY WEIGHT,
Standard, with chest
intercostal, back and
loin and rowing pulleys,
folding row-slide
etc. **\$60.00**



NO. 65-1 WITH SEAT on
back-board **\$65.00**

TRIPLEX UNDER-LIFT CHEST WEIGHT

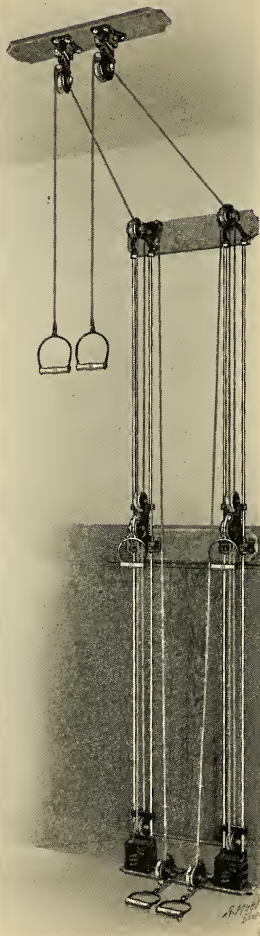
Patented March 4, 1903.

The Triplex Chest Weight is designed to economize room. It adds a third handle, or combines the intercostal, chest and back-and-loin pulleys in one machine without any adjustment of ropes, catches, etc., to change from one to the other. The result is obtained in the Triplex with less pulleys, and consequent smoother action, than in any other machine..

TRIPLEX CHEST WEIGHT

No. 269 "STANDARD," double set pulleys, rods, weights etc., as specified on page 96
\$36.00

The Triplex requires a height of ten feet from the floor to over the top pulley to admit of the intercostal handles being carried to the floor, a less height than is possible with any other principle.



ATTACHMENTS

for the handles of any Chest Weights; thus converting them into Neck Machines, high, low and side machines, etc.



1503

No. 1503 HEAD GEAR. A webbing head strap, attaches to the handle of a chest weight, \$.50



1502

No. 1502 HEAD GEAR. Two white webbing head straps and a cross bar. The straps are washable, 1.50



No. 230-3 SHOE. Toe and heel attached, \$2.50

230-3

No. 230-4 FOOT STRAP, \$.80



230-4



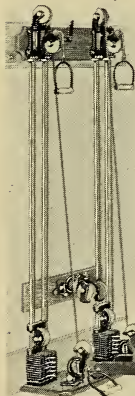
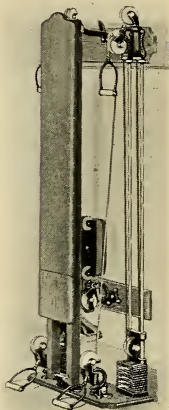
No. 230-7 SHOE. Central attachment, \$2.50

230-7

ROWING CHEST WEIGHT.

For class work in gymnasiums and for home use, a machine that will give a wide range of exercise is needed. We have designed the No. 60 Chest Weight for these purposes. It is a strong, durable machine, built for gymnasium practice, but equally well adapted for home use.

The seat, although desirable, is not a necessity, and the back-board will be provided without it if desired. The seat is shown, dropped in the upper right hand illustration and raised in the preceding page. It is dropped by pressing a lever back of the board, and latches automatically on being raised.



·No. 60 CHEST WEIGHT, Standard, with chest, back and loin and rowing pulleys, back board, row-slide and seat.

\$45.00

No. 61 CHEST WEIGHT, Standard, with back-board and row-slide and no seat,

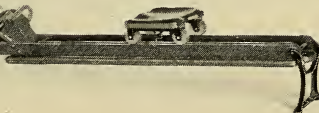
\$40.00

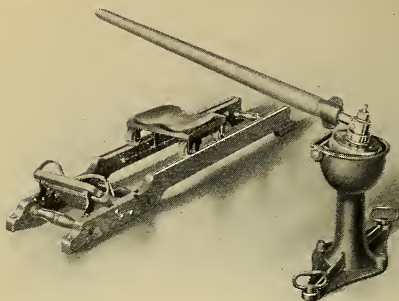
No. 60-1 ROW-SLIDE only, with seat,

24.00

No. 61-2 ROW-SLIDE only, no seat,

20.00

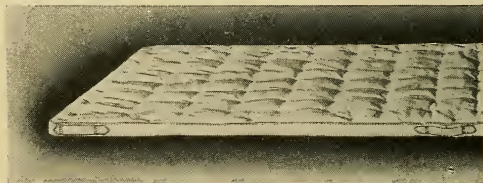




HYDRAULIC ROWING MACHINES.

In this machine a liquid resistance to rotation offers the closest approximation to actual rowing yet obtained. The oar turns to allow feathering and is balanced by the bowl.

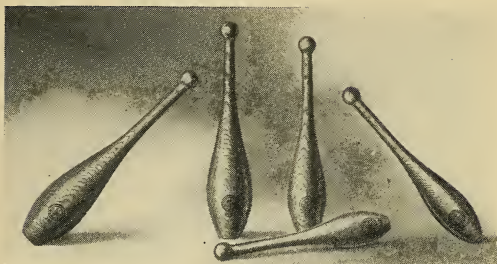
- No. 335 HYDRAULIC ROWING MACHINE, one oar with sliding seat, **\$56.00**
 No. 336 HYDRAULIC ROWING MACHINE, two oars with one sliding seat, **\$100.00**



STANDARD MATS

The "Standard" Felt Mats are made of two layers of one-inch hair felt, best grade, covered with No. 6 Soft White Duck, with the top side reinforced by burlap.

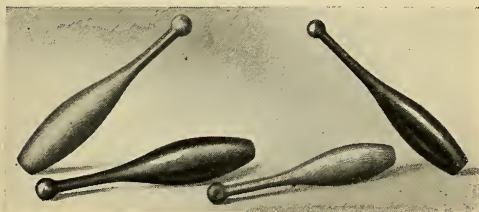
- No. 981 "STANDARD" MATS, 2 inches, 3 x 5 feet, **\$9.00**
 No. 982 "STANDARD" MATS, 2 inches, 5 x 5 feet, **15.00**
 No. 983 "STANDARD" MATS, 2 inches, 5 x 7 feet, **21.00**
 No. 984 "STANDARD" MATS, 2 inches, 5 x 10 feet, **30.00**



"STANDARD" MODEL

This model represents the latest development in clubs, i. e., a low weighted, slow swinging club,

No. 1001	$\frac{1}{2}$	LB. CLUBS, per pair,	\$0.45
No. 1002	$\frac{3}{4}$	LB. CLUBS, per pair,	.45
No. 1003	1	LB. CLUBS, per pair,	.50
No. 1005	$1\frac{1}{2}$	LB. CLUBS, per pair,	.55
No. 1007	2	LB. CLUBS, per pair,	.60



ANDERSON MODEL.

A popular club for class work and exhibitions. Made of white wood to secure bulk and lightness.

The Men's Model weighs about twenty-four ounces and the Ladies' Model fourteen ounces.

No. 1051	MEN'S MODEL, ebonized,	\$1.50
No. 1052	MEN'S MODEL, natural finish,	1.00
No. 1053	LADIES' MODEL, ebonized	1.25
No. 1054	LADIES' MODEL, natural finish,	.80

NARRAGANSETT MACHINE CO.



No. 1076 No. 1077 No. 1079 No. 1078 No. 1076

EXHIBITION MODEL.

These clubs are a good form for fancy swinging, and are well adapted for prizes or presentations.

No. 1076	EXHIBITION MODEL, plain,	\$2.60
No. 1077	EXHIBITION MODEL, ornamented,	6.00
No. 1078	EXHIBITION MODEL, ornamented,	7.00
No. 1079	EXHIBITION MODEL, ornamented, All ebonized, (black) finish.	8.00



CHAUTAUQUA MODEL.

This is a hollow light club, nine to ten ounces, with the weight low, making it swing slowly. All ebonized (black) finish.

The oval base does not catch on clothing, and is a decided novelty in appearance. This club is a favorite for fancy swinging, and may be ornamented same as No. 1076, at the same advance in prices.

No. 1073	FLAT BASE, per pair,	\$2.00
No. 1074	OVAL BASE, per pair,	2.00



"STANDARD" MODEL DUMB BELLS

The "Standard" Dumb Bells have been carefully designed to meet the requirements of gymnasium exercise.

No. 1102	Weight	$\frac{1}{2}$ pound,	per pair,	\$0.40
No. 1103	Weight	$\frac{3}{4}$ pound,	per pair,	.45
No. 1104	Weight	1 pound,	per pair,	.50
No. 1106	Weight	$1\frac{1}{2}$ pounds,	per pair,	.55
No. 1108	Weight	2 pounds,	per pair,	.65



WOOD HANDLE IRON DUMB BELLS.

A popular style of bell on account of the wood handles which do not chill or soil the hands, and the compact weight which gives an energetic action possessed by no other bells.

The three-quarter pound bell (see illustration) was especially designed for school use. It is a light, snappy bell, much liked by little ones.

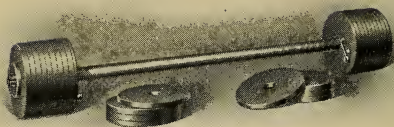
No. 1170	Weight	$\frac{3}{4}$ pounds,	per pair,	\$0.60
No. 1172	Weight	2 pounds,	per pair,	.80
No. 1173	Weight	3 pounds,	per pair,	1.00
No. 1174	Weight	4 pounds,	per pair,	1.20



IRON DUMB BELLS

Plain cast iron dumb-bells, finely japanned, correct forms.

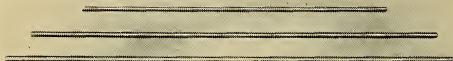
No. 1151	IRON DUMB-BELLS, 1 pound, cast hollow,	
	per pair,	\$0.24
	IRON DUMB-BELLS, 2 pounds and upwards, per pound,	.08



ADJUSTABLE BAR-BELL

The "Standard" Adjustable Bar-Bell consists of a bar provided with adjustable flanges having latches and end nuts. The adjustable flanges are set for any weight, by dropping the latch into holes in the bar.

No. 1268 ADJUSTABLE BAR-BELL, weight 120 pounds, \$16.00



JAPANNED IRON WANDS.

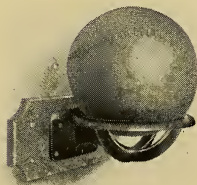
No. 1230	3 feet x $\frac{1}{2}$ inch.	Weight 2 pounds,	\$0.35
No. 1231	4 feet x $\frac{5}{8}$ inch.	Weight 4 pounds,	.44
No. 1232	4 $\frac{1}{2}$ feet x $\frac{3}{4}$ inch.	Weight 7 pounds,	.64

MAPLE WANDS.

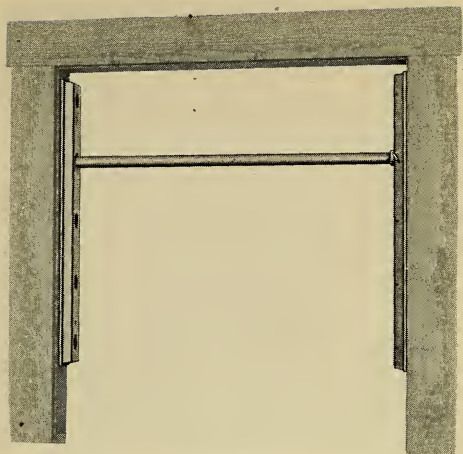
No. 1211	3 feet x $\frac{5}{8}$ inches,	per dozen,	\$1.00
No. 1211	3 $\frac{1}{2}$ feet x $\frac{3}{4}$ inches,	per dozen,	1.60
No. 1203	4 feet x 1 inch,	per dozen,	1.60
No. 1202	4 $\frac{1}{2}$ feet x 1 inch,	per dozen,	1.60
No. 1206	3 feet x 1 $\frac{1}{4}$ inches,	per dozen,	1.60

MEDICINE BALLS

A strong leather cover laced over a light sewed cover, as shown in illustration. Wears well. Size given is circumference.



No. 1736	30 inch,	\$4.50
No. 1737	36 inch,	6.00
No. 1738	42 inch,	7.50
No. 1739	48 inch,	9.00
No. 1730-1	MEDICINE BALL RACK,	1.50
No. 1730-2	MEDICINE BALL RACK, mounted,	2.00



DOORWAY HORIZONTAL BAR.

A desirable piece of apparatus for every home. Its presence tempts its use and its use helps to keep the spines of school children straight and keep them erect.

It may be placed across any door or passage way and is adjustable six inches at a time for two feet.

The bar is hickory and the slides oak, all well finished.

This bar is also well adapted for holding a child's swing.

No. 399 DOORWAY BAR,

\$3.00

SWEDISH HOME OR OFFICE APPARATUS.

The outfit shown on the opposite page is patterned after those made in Sweden for Home and Office use. It comprises adjustable Stall Bars, Boom with padded back rest and Bench. The posts are oak; stall bars, maple; boom, pine; and bench, white wood.

The posts are 7 ft. 10 in. high, and the width over all, 3 ft. 3 in. on the regular size. Other sizes made to order at full list price.

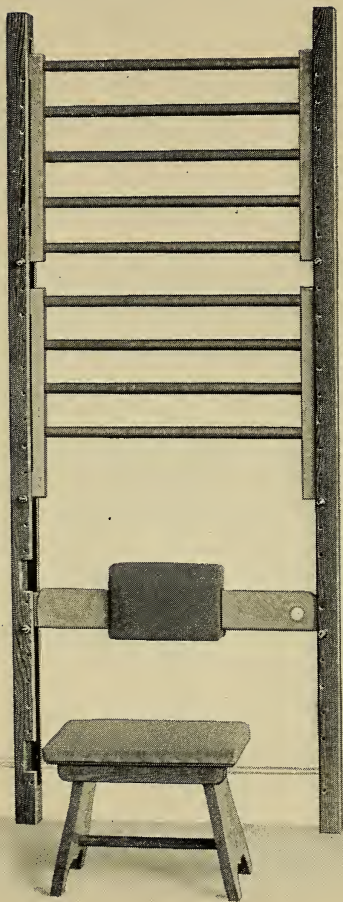
For Medical Gymnasts, Masseurs and all practicing Swedish Medical Gymnastics, it is a complete outfit at a low price.

It is easily set up and can be arranged to be taken entirely down by loosening four hand screws.

It can also be made to stand independent of the doorway by making the posts to reach from floor to ceiling.

The "Extra" style 919-1 has posts of quartered oak and a leather covered padded bench.

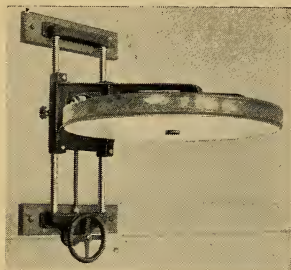
No. 919	SWEDISH OUTFIT,	\$25.00
No. 919-1.	SWEDISH OUTFIT, Quartered Oak,	35.00



NARRAGANSETT MACHINE CO.

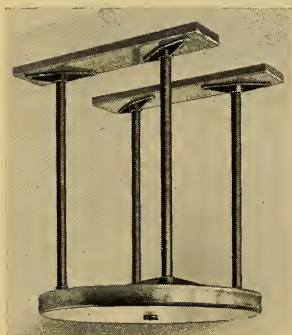
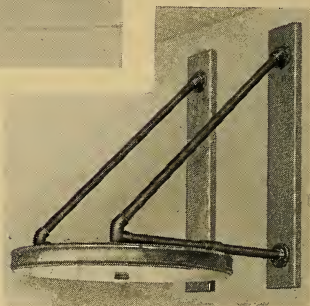
STRIKING BAG DRUMS.

These drums are built up solid with maple face and heavy backing, offering a smooth solid surface to the bag. They have bent oak rims and detachable swivels.



No. 890S ADJUSTABLE BRACKET DRUM. Geared adjusting screw with ball bearing adjusts 18 inches iron work finished in baked japan. **\$35.00**

No. 894S BRACKETED DRUMS. The simplest form for a vertical wall **\$20.00**



No. 893S PIPE SUSPENSION DRUM as used under a gallery 3 inch to 5 feet. **\$20.00**

STRIKING BAG

A bag for severe general use.

No. 97 X STRIKING BAG, each, **\$5.00**

No. 7 AS RUBBER BLADDER, each, **\$1.50**

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